

Railway Age

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September 24, 1938

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IN the fall and winter months schedules will become more difficult to maintain because of fog, sleet and snow.

The modern trend of transportation makes safe, high-speed schedules essential, despite adverse weather conditions. Safe maintenance of high-speed schedules is made possible by—

-BRINGING THE SIGNAL INTO THE CAB.

—where the engineman has a clear view of it at all times. The "UNION" Cab Signal informs him of track conditions ahead and enables him to operate his train accordingly. Thus schedules may be maintained with safety.

*An Installation of "Union"
Cab Signals will eliminate
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SAN FRANCISCO

Donald Richberg and A. A. Berle On Labor Union Policies

This week, instead of exposing our readers in this space to more of what our union friends are pleased to call our "railroad propaganda," we should like to draw attention to a statement on union-management relationships by one of railway labor's staunchest friends. Here it is:

A labor organization which has to solve modern problems of contract making can place very little reliance on muscles and emotions. It has to use brains. It has to know the facts of the industry out of which its members are to earn a livelihood. It cannot take a simple proposition such as, for example, that men may want to work for ten dollars a day for eight hours' work, and then simply try to make someone pay the bill. You and I and everyone familiar with the railroad industry know that transportation rates can produce a limited income, and you know that it is a very complicated problem to determine how low a transportation rate can be fixed to produce the largest possible volume of traffic and yet pay decent wages and fair prices for materials. We know the difficulty of determining how high a rate can be fixed without reducing the volume of traffic and thereby reducing employment and wages. . . .

Business management has a three-fold problem in meeting the needs of customers, workers and investors. Things must be produced that people want to buy. Wage earners must earn enough to be able to buy these things. Investors must be paid a fair wage for the use of capital necessary to create and constantly improve the physical structure of a business enterprise.

So the business manager is required to keep money moving into and out of his business. He can pay wages only out of the money gathered day by day from his customers. He can pay wages to labor and sell things to customers only so long as he can make a profit out of which he can pay investors for the use of their property, and thus continue the financial support of his enterprise. . . .

"Signposts of Prosperity"

Those three paragraphs contain in essence everything which the *Railway Age* has been advocating with regard to wages and working conditions on the railroads. They are taken from an address delivered by Donald Richberg before the convention of the Brotherhood of Locomotive Firemen & Enginemen last year, and published in the B. of L. F. & E. Magazine for August,

1937. At the conclusion of Mr. Richberg's address, President D. B. Robertson hailed its "signposts guiding us along the right road to prosperity." It is difficult for us to understand why these opinions when expressed by Mr. Richberg are "signposts to prosperity" to Mr. Robertson, and when practically the same ideas are uttered by *Railway Age*, they become to Mr. Robertson "attempts to breed dissension, discord and strife" (as he says in the September, 1938, issue of the B. of L. F. & E. Magazine).

A moment's examination will disclose just how closely Mr. Richberg's analysis parallels our own. In the first paragraph that we have quoted, he deals in general terms with the proposition that wages have to be fixed with some thought as to "what the traffic will bear," i.e., that they cannot be arbitrarily fixed so high that rates to cover them will drive traffic away. We have repeatedly drawn attention to this point—and the only answer we have ever got from any of the apologists for union high-wage and make-work policies is that the railroad investors have drawn more interest and dividends *in the past* than they were morally entitled to.

Meantime the railroads have to pull off trains, because, at the rates they have to charge to cover their wage bill, the shippers can save money by diverting their business to the trucks. Even the profitable trains earn less than they did before (which profits might be used to keep some "border line" trains or branch lines in operation), because make-work union rules require the employment of employees who perform no really necessary service.

A "Fair Wage" to Capital

Take Mr. Richberg's second paragraph, where he speaks about the necessity for a "fair wage" to capital. Here again, when we have advanced this point, the union apologists have once more drawn attention to the returns paid to railway investors *in the past*. Such a

rejoinder is absolutely futile from the standpoint of railway employees. Their interest lies in seeing enough new capital going into the railroad business today and for the years which lie ahead to keep the industry up-to-date and able to provide jobs. *Investors do not put up their money because of past profits, but in the light of promises for the future.* Investment money is not going into the railroad business today, because the investor's present "wage" is next to nothing, and its failure to go in is endangering the job of every man in the railroad business—from the chief executive down to the youngest section hand and student brakeman. But, the union leaders say, finding the money is no responsibility of theirs. Safeguarding the jobs of railroad employees is, however, their job—or at least it ought to be. How well they have performed this job is conclusively demonstrated by the fact that in the current year there have been fewer men employed by the railroads than at any time since employment statistics have been kept.

Mr. Richberg stated clearly the fact that railroad managers can pay wages only out of the money "gathered day by day from the customers." He did not go into detail, but every railroader knows of shipments which have been lost to the railroads (with consequent pulling off of trains and crews and abandonment of lines) because truck rates and water line rates are lower than railroad rates. It takes only elementary arithmetic to go beyond that point to the conclusion that, if the railroads were freed from paying, under the rules, for work not done, or from hauling around unnecessary employees, or from paying engineers as high as \$35 a day, they could reduce their rates and thus get back at least some of the traffic they have lost. And when traffic comes back, jobs come back with it.

Berle on Union Policy

Turning from Mr. Richberg, but still sparing our readers any "railroad propaganda," let us look at the recent observation of the eminent New Deal economist, A. A. Berle, Jr., on labor union objectives. Mr. Berle was one of President Roosevelt's original "brain trust." He has been an adviser on railroad matters to the Reconstruction Finance Corporation. On a three-year holiday from the National Administration, he served New York's "liberal" Mayor La Guardia as an expert on finance and on plans for the reorganization of the city's subway system. He has but recently resigned as Assistant Secretary of State. These political connections aside—all of them New Deal, "liberal" and pro-labor—Mr. Berle is the joint author of an epoch-making economic treatise entitled, "The Corporation and Private Property." There is probably no more able or clearer-thinking expert in the field of corporate economics—certainly none in the camp of the "liberals." In a recent memorandum to the government's "monopoly" probers, Mr. Berle wrote:

For continuous work at an adequate rate of pay, labor or-

ganizations are establishing their claim almost entirely in terms of hourly wage rates and hours of labor. I think this is probably short-sighted; it would be more consonant with what they perhaps really want if the claim were advanced in terms of annual income and permanency of jobs, plus pensions and sick relief. . . .

Well, the railroads are affording to a comparatively few employees the fanciest hourly earnings and the easiest hours to be found in any industry, while, at the same time, they are offering very little certainty of any "annual income" whatsoever to a vast army of employees of junior seniority. There is nothing which we have said in criticism of union policies which give everything to the "old heads" and nothing to the junior employees, which is not at least implied in the statement by Mr. Berle.

Afraid to Face Unpleasant Facts

But when we, in our own language, utter virtually the self-same opinions on labor union policies that are expressed by organized labor's proven and able friends, these opinions become somehow metamorphosed into something malicious and sinister. Such accusations against us and other so-called "railroad propagandists" are nonsense; and those who level them at us know they are nonsense. The reason they are uttered against us is that organized railroad employees have been so long misled about railroad "profits" and the "greedy" capitalists and have been fed for so long on the kind of high-wage and make-work hokum put out by the paper "Labor" that their leaders are now afraid to tell them the uncomfortable fact that a painful choice must be made. That is to say, the employees can have plentiful jobs at reasonable wages and working conditions, or they can have a few jobs (with their number steadily dwindling) under present high wages and restrictive rules. They can't have both. And the railway labor executives know this just as well as we do.

By revealing this fact to railway employees, we are simply doing a thankless job that the union leaders themselves would otherwise be forced sooner or later to do for themselves. They ought to be grateful to us for preparing the way for them—breaking the unpleasant news gently to men who may perhaps be inclined to resent hearing the truth when they have been so long deceived.

They accuse us of trying to "sow discord" in the ranks of railway labor, because we have pointed out the fact—which is so self-evident that it scarcely needs pointing out—that present union policies have sacrificed entirely the interests of the junior employees. Well, if it is "sowing discord" to holler at a man and warn him that his pocket is being picked, when it is being picked, then we must be guilty. Because, if the pockets of junior employees are not being picked when they are thrown out of work entirely at a time when their seniors on the roster are drawing the biggest money in history, then what is it that is being done to them? If labor

union "protection" is protecting these younger men against anything but a chance to go to work, just what is it protecting them from?

Two Important Questions

Current news and gossip, published and otherwise, regarding the railway wage controversy raises two questions of vital importance.

The first of these is: *Who is managing the railways of the United States?* We hear, as we did last year, that the controversy is going to the White House and will be settled by President Roosevelt. The President, under existing law, is, at this stage of the controversy, authorized to appoint an emergency board which, within thirty days, must hold hearings and make a report and recommendations. That exhausts his present legal authority. Thirty days after the emergency board has made its recommendations either or both of the parties may reject them. Railroad managements could then lawfully put into effect the 15 per cent reduction of wages.

In view of these facts why is it said that the President will settle the controversy? Perhaps upon the theory that, regardless of the actual provisions of law, both sides are bound to accept any settlement proposed by him or by an emergency board appointed by him. If that is so, we already have government management of railways. Why express fears that a strike will result in government management if we have it already? And if we have government management already, why should not the government assume ownership also, together with the losses now being suffered by the private owners?

Either we still have private management or we already have government management. If we still have private management those employed by the private owners still have the duty and responsibility of managing. Under existing law that includes, after the process prescribed by the Railway Labor Act has been fulfilled, the duty and responsibility of fixing wages that are warranted by present economic and railroad conditions.

The second question of vital importance above alluded to which is raised by current news and gossip, is this: *What is going to happen to the railroad industry if it does not get a reduction of wages?* In the first six months of this year it lost over \$181,000,000 in 181 days—almost exactly \$1,000,000 a day. This is the conclusive evidence that, without a large increase in traffic and gross earnings, it cannot stand present operating expenses and taxes.

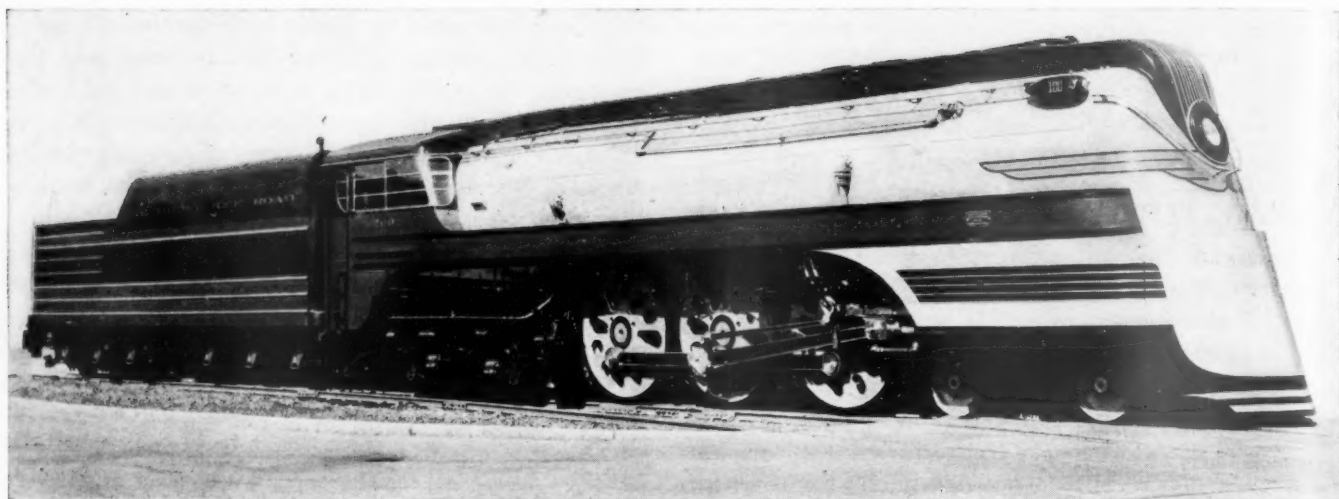
Labor leaders propose "scaling down" fixed charges as a solution. The managements do not own the railroads and, therefore, have no legal or moral right or authority to accept this proposition. And its acceptance even by railway security-owners would not constitute a solution, anyway.

Various proposals are being made for federal legislation as a solution. Railway officers know best the conditions and problems of their individual railroads. The *Railway Age* has no hesitation in claiming that it knows the conditions and problems of the *railroad industry* as well as anybody. On the basis of that knowledge this paper asserts that, under present economic conditions in the United States, there is no solution of the present problem of the industry that does not include a reduction of wages. We advocate important changes in existing federal and state laws affecting transportation as strongly as anybody; but even if all these changes were made immediately, in order to afford a solution they would have to be supplemented by either (1) a reduction of wages or (2) an early and large expansion of traffic. The trend of traffic has been upward since the middle of May; but it is not gaining enough to promise any solution of the present railroad problem without a reduction of wages.

All intelligent and sincere efforts to solve the railroad problem under private ownership must have one objective—viz., *increase of the industry's net operating income*. Its net operating income in the first seven months of 1929 was \$686,400,000. In the first seven months of 1932 it was \$124,000,000. In the first seven months of 1933 it was \$217,000,000. In the first seven months of 1938 it was only \$109,000,000—the smallest of the depression. Other things being equal, a 15 per cent reduction of wages would cause an increase of about \$20,000,000 a month in net operating income. What have those who oppose a reduction of wages to propose as a substitute means of immediately increasing net operating income?

The labor leaders propose none. The nearest approach any of them has made has been the suggestion of George M. Harrison that the railways, like competing carriers, be subsidized from the public treasury. President Roosevelt rejected this. If the President is still opposed to railroad subsidies, and also to a reduction of wages, what has he to propose in place of a reduction of wages as a means for increasing net operating income? If the President appoints an Emergency Board and it reports against a reduction of wages, what means will it recommend for increasing net operating income?

Under existing law the officials chosen by the security-owners still have the duty and responsibility of managing the railways. Under that law they still have the power to secure a reduction of wages regardless of who may oppose it; and it is their duty and responsibility to do what they legally can to restore the now almost vanished return of their security-owners. Those who have heretofore opposed a reduction of wages should either withdraw their opposition or propose some other practical means of immediately increasing the net return of the railway industry. If they do not do so—and under present conditions they cannot—the managers of the railways can meet the obligation they have voluntarily assumed only by going through with a reduction of wages.



Milwaukee Installs Six Stream-line Passenger Locomotives

DURING the last month the Chicago, Milwaukee, St. Paul & Pacific has taken delivery of six 4-6-4 type streamline passenger locomotives which were built at the Schenectady, N. Y., plant of the American Locomotive Company. These locomotives, while following the general appearance of the original Hiawatha, are not designed specifically for service on the new Hiawatha, but will be used as well in general fast passenger service. The locomotives will be used on the Hiawatha, Pioneer Limited and Olympian trains between Chicago and Minneapolis, a distance of 418 miles, and west of Minneapolis on the Olympian, to Harlowton, Montana, a distance of 914 miles. Otto Kuhler, consulting engineer of design, collaborated with the railroad company and the builders in the development of the "speedlining" of this new motive power.

These locomotives develop a tractive force of 50,300 lb. with a boiler pressure of 300 lb. and 84-in. driving wheels. The foundation bed of the locomotive and the tender frame are steel castings. The tenders carry 20,000 gallons of water and 25 tons of fuel.

The Boiler

The boilers on these locomotives are built in three courses, the middle or dome course being conical in form. The inside diameter of the first course is 82½ in. and the outside diameter of the third course is 94 in. The thickness of the plate in the first course is 7⁄8 in. and 3½-in. plates are used in the second and third courses. The three barrel courses, welt strips and dome liner are silico-manganese steel having a maximum tensile strength of 82,000 lb. The front tube sheet is 3⁄4 in. thick and the back tube sheet is 5⁄8 in. thick. The firebox is 96¾ in. wide by 144½ in. long. The height from the bottom of the mud ring to the top of the crown sheet is 73½ in. at the rear and 88½ in.

New power for passenger service develops 50,300 lb. tractive force and weighs 415,000 lb. — Fireboxes are completely welded

at the front. The water space is 5 in. at the sides and back and 6 in. at the front of the firebox. The length of the combustion chamber is 44½ in. The roof and sides of the firebox are of silico-manganese steel similar to that used in the barrel course.

The roof sheet is 1⅜ in. thick while the outside side sheets are 9⁄16 in. thick. The inside firebox sides and crown consist of three 1⅜-in. sheets welded together. Two Thermic syphons are located in the firebox, and a third one on the center line of the boiler is in the combustion chamber. In addition to the two syphons in the firebox, there are two 3½-in. arch tubes which, together with the syphons, support the brick arch.

The boilers are fitted with sixty 2¼-in. tubes and one-hundred-sixty-four 3¾-in. flues. The length over the tube sheets is 19 ft.

The firebox is arranged for bituminous coal using Firebar grates. The grate area is 96.5 sq. ft. Coal is fed by means of a Standard modified type B stoker. The ash pans are of welded steel plate with cast-steel hoppers.

The fireboxes of these locomotives are completely welded. The firedoor flange, inside door sheet, inside throat sheet and back tube sheet, as well as the longitudinal seams which join the crown and inside firebox side sheets are welded butt joints.

Alco flexible stays have been used extensively. Flexible expansion stays of the WZ type are used in the

first six rows across the front of the combustion chamber. Two rows of flexible radials of the WY type are used at the edge of the crown sheet. WZ type sleeves and caps are used for the flexible water space stays in the combustion chamber as well as a complete installation in the throat sheet. WZ type flexible water space stays are used in the breaking zones of the side and back head. There are four 2-in. combustion flues on each side of the firebox.

The boilers are equipped with the Barco type F3a low-water alarm, Wilson sludge remover together with Wilson blow-off cocks and muffler. Franklin Butterfly type firedoors, Superior flue blowers and T-Z smoke consumers constitute part of the equipment.

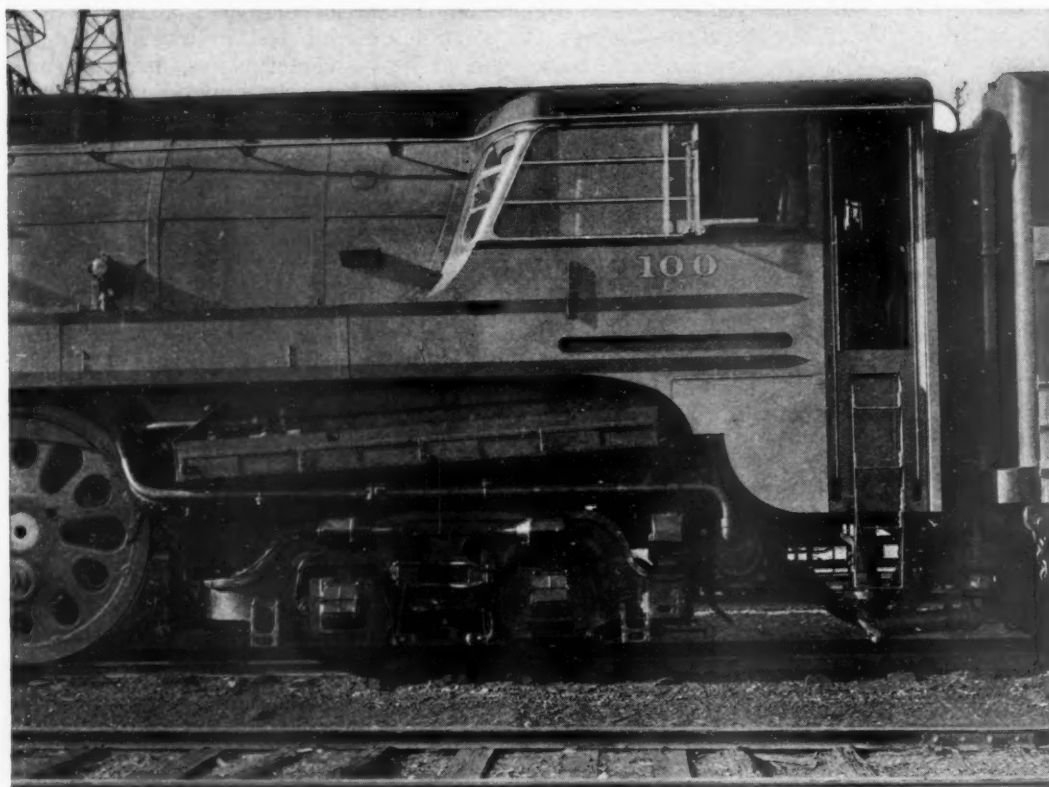
Saturated steam passes through a Tangential steam dryer in the dome, through a 10-in. diameter steel dry pipe to an American multiple throttle built into the header of the Type E superheater.

The foundation of these locomotives is a General Steel Castings Corporation's engine bed in which the cylinders, back cylinder heads, center plates, air reservoirs, link support, guide-yoke brackets, expansion-shoe pads, air-pump brackets and driver-brake fulcrums are cast as an integral part of the bed. The boiler is supported at the front and back of the firebox on expansion shoes, at the cylinders and by a waist sheet between the first and second pair of drivers.

Machinery Details

The engine trucks are the General Steel Castings four-wheel type with 36-in. Davis cast-steel wheels, A. S. F. clasp brakes and Timken roller bearings. The driving wheels have Boxpok centers, 84-in. tires and Timken roller bearings. The journal diameter is 13½ in. at the main wheel and 12½ in. at the front and back. The





Left: The Cab Is of Distinctive Design and of the Vestibule Type

Below: The Rear End of the Tender Has a Dummy Vestibule

Alco lateral-motion device is installed on the front pair of drivers.

The trailing truck is the Delta four-wheel type with centering device, furnished by the General Steel Castings Corporation with 38-in. Davis wheels at the front and 44-in. steel-tired wheels at the rear of the truck. The trailer wheels are equipped with A. S. F. roller-bearing units and clasp brakes.

The cylinders are $23\frac{1}{2}$ in. bore by 30 in. stroke. Walschaert valve gear controlled by an Alco type H reverse gear actuates the 12-in. piston valves. The cylinder and valve chamber bushings are of Hunt-Spiller gun iron. The Z-type pistons are of rolled steel and both pistons and valves are fitted with Hunt-Spiller Duplex packing rings. Those on the pistons are the locked-lip type which require no bull ring and the valve rings are sectional bronze and iron.

The piston rod is of medium carbon steel, normalized and tempered, and is 5 in. in diameter. The crosshead and guides are of the multiple-bearing type. The main and side rods are of low-carbon nickel steel normalized, quenched and tempered. Floating bronze bushings are used at all pins with Hunt-Spiller fixed bushings in the rods. The crank pins are medium carbon steel and the main pin is hollow-bored.

The revolving weights at all wheels are cross-counterbalanced. The total weight of the reciprocating parts on each side is 1,681 lb.; the overbalance is 196 lb. on each wheel. The dynamic augment at 84 m. p. h. is 9,400 lb. in each wheel.

Lubrication

Mechanical lubricators supply the force-feed oil lubrication. A Nathan DV5 26-pint lubricator on the right side distributes oil to the valves and cylinders as well as the stoker and air pumps. A five-feed lubricator of 24 pints' capacity on the left side distributes oil to the



driving boxes and guides. Three of the locomotives in this order have Detroit lubricators on the left side and the other three have Chicago lubricators. Both lubricators are driven from connections at the top of the combination levers.

Pressure grease lubrication is used extensively. All together 236 Alemite fittings are used on the engine and tender. The engine truck has 27 fittings, the crossheads, guides, motion work and reverse gear 42 fittings, the trailer truck 21 fittings, and the tender truck 58 fittings. Additional fittings on lubricator drives, valve-stem and crosshead guides, throttle rigging, motion, side rods and

crank pins, spring and brake rigging, and wheels and boxes total 74 fittings. Rex fittings are used at 12 points on the driving boxes.

Cab and Auxiliary Equipment

The brake equipment on these locomotives consists of the Westinghouse No. 8ET schedule with two 8½-in. cross-compound compressors. The main reservoirs are cast as part of the engine bed and have a capacity of 55,000 cu. in. The braking ratio on the engine truck is 45 per cent, on the drivers 60 per cent, and on the trailer 43 per cent. The engine truck brakes are operated by two 10-in. by 8-in. cylinders, the driver brakes by two 16-in. by 10-in. cylinders and the trailer brakes by four 8-in. by 8-in. cylinders. The train-control equipment is the Union Switch & Signal two-element type with three-indication cab signals.

The air compressors are mounted under the streamline shrouding just back of the pilot. The air-compressor exhausts, together with the exhaust from the feedwater-heater pump, enter a header on the outside of the smokebox which is connected to a tunnel on the inside of the smokebox. The upper end of this tunnel discharges into a cavity cast integral at the rear of the stack. The generator is on a cast-steel bracket back of No. 3 driver on the right side.

The generator and headlight equipment were furnished by the Pyle-National Company.

The main cab turret is just forward of the cab under the cowling. It is connected inside the boiler with two 3-in. pipes leading from the dome. Saturated steam from this turret is supplied to the flue blowers, cab heaters, stokers, injectors, water conditioner and steam heat. Superheated steam is supplied to the whistle, air pumps and generator from a separate turret.

The cab is of the vestibule type, of welded copper-bearing steel, wood lined and insulated with Hairinsul.

A recess in the exterior of the cab sides provides a toe hold for passing from the cab to the running board. Steam radiators have been installed on both sides of the cab and in the gangway. There are two seats, with Spongex cushions, on either side and drop seats are mounted on the rear vestibule wall on both right and left sides.

The metal cab-window sash were supplied by the O. M. Edwards Company and have shatter-proof glass in all sash.

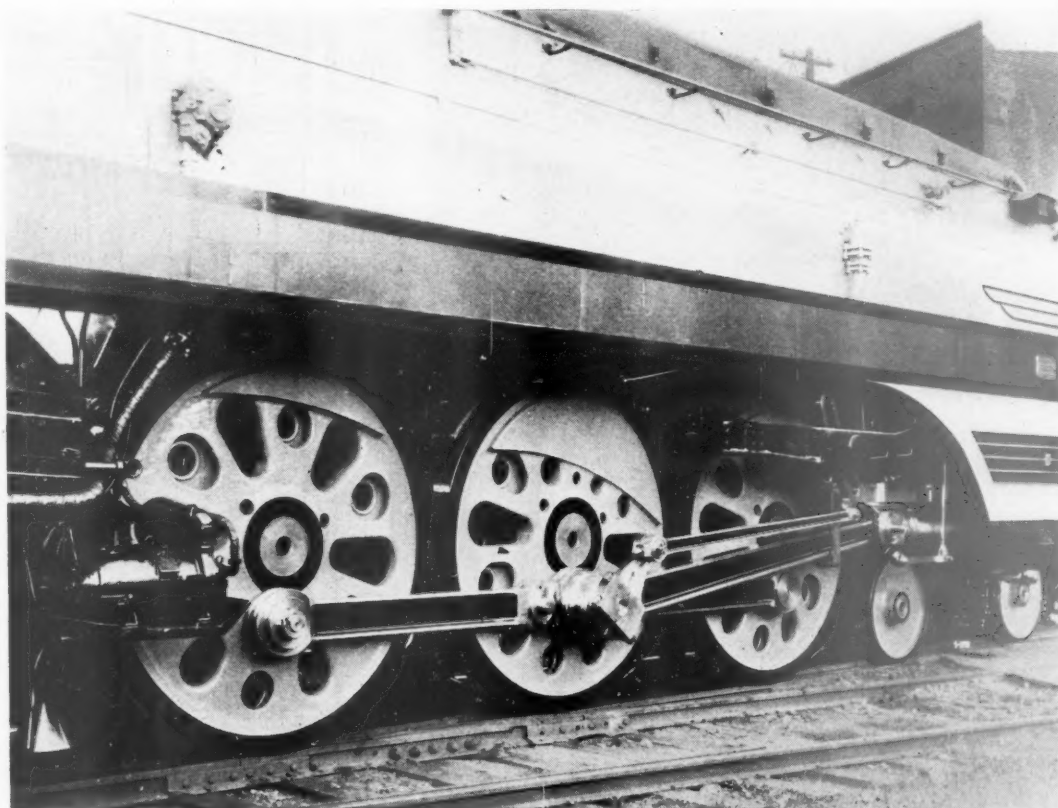
On the front of these locomotives is a Buckeye type E folding coupler with a 6-in. by 8-in. shank. The Franklin Type E2 radial buffer is installed with the Unit Safety drawbar. Barco flexible connections are used between the engine and tender.

Streamlining

The streamlining on this locomotive follows the general theme of the first Hiawatha locomotive as far as the front end is concerned, which is at an angle of 16 deg. to the vertical. Every effort was made to adapt the form of the shrouding to established structural lines.

The front of the streamline shrouding opens at the center line on concealed hinges, giving access to the smokebox front, whistle and air-horn mountings. The air pumps are on either side of the front end behind the pilot skirting and are accessible through hinged side panels in front of each cylinder. A removable panel gives access to the hinged-type coupler. There is a grille above the headlight in front of the whistle and horn. This grille is made up of flat rolled-steel bars with the narrow edge to the front trimmed with Snap-on stainless steel molding. These metal-trimmed bars are arranged in such a manner that the headlight remains the focal point of the front "face" of the locomotive. The original Hiawatha wing ornament has been retained in a somewhat modified form. This ornament

The Shrouding Is Above the Running Gear—This Enables It To Be Seen and Facilitates Inspection



is of stainless steel with a satin finish. The front hand rails are fitted to follow the lines of the headlight and wings and thereby become a part of the ornamentation. The road name is attached to the pilot skirting in stainless steel letters.

The pilot skirt is continued around the cylinders for aerodynamic and protective reasons and in order to accentuate the appearance of height and power rather than of width. The ornamental panel of the side cylinder skirting is continued forward so as to be visible from the front. In order further to relieve the appearance of bulkiness, the pilot skirting merges to a point at the bottom.

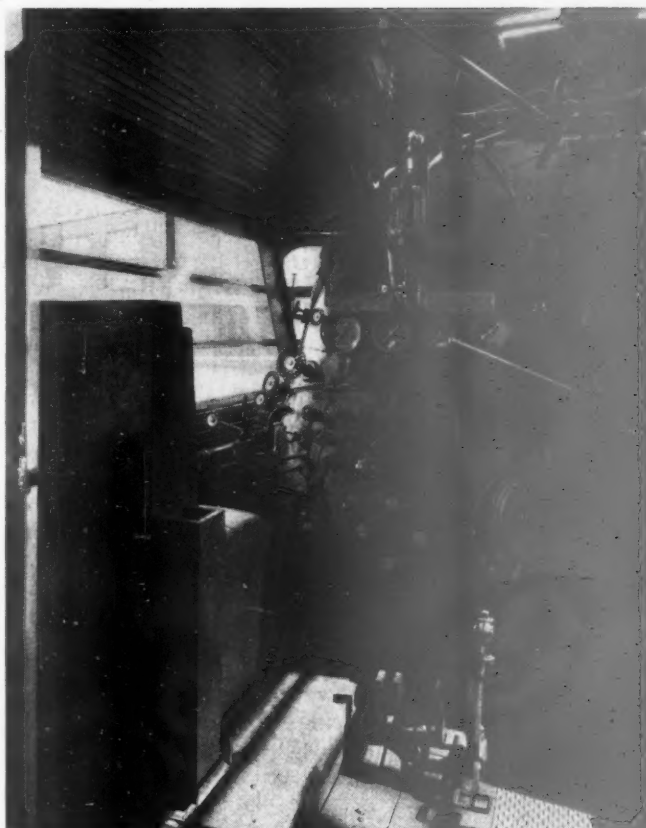
While the predominating color of the front end is gray, the horizontal striping of maroon and Milwaukee orange yellow as applied to the skirting below the running board has been continued around to the front in the same manner as the black-and-metal-striped panel on the cylinder skirting. On the bottom of the pilot skirt a maroon design breaks up the appearance of width by following the front edge of the striped cylinder panel. In addition to the ornamental value, the colorful appearance of the front of the locomotive has a decided safety value by making it visible at great distances.

The cowling of the stack, sandbox and dome ends in a fishtail shape on the cab. The unbroken contour of this cowling contributes to smooth smoke flow and obviates the necessity of smoke deflectors. This cowling

General Dimensions and Weights of the C. M. St. P. & P. 4-6-4 Type Locomotives

Railroad	C. M. St. P. & P.
Builder	American Locomotive Co.
Type of locomotive	4-6-4
Road class	F-7
Road numbers	100-105
Date built	1938
Service	Pass.
Rated tractive force, engine, 85 per cent, lb.	50,300
Weights in working order, lb.:	
On drivers	216,000
On front truck	82,500
On trailing truck:	
Front	53,000
Back	63,500
Total engine	415,000
Tender	375,000
Wheel bases, ft.-in.:	
Driving	14- 8
Engine, total	42- 4
Engine and tender, total	89- 10
Driving wheels, diameter outside tires, in.	84
Cylinders, number, diameter and stroke, in.	2-23½x30
Valve gear, type	Walschaert
Valves, piston type, size, in.	12
Maximum travel, in.	7½
Boiler:	
Steam pressure, lb.	300
Diameter, first ring, inside, in.	82½
Firebox length, in.	144½
Firebox width, in.	96½/16
Combustion chamber length, in.	44½
Arch tubes, number and diameter, in.	2- 3½
Thermic syphons, number	3
Tubes, number and diameter, in.	60- 2½
Flues, number and diameter, in.	164- 3¾
Length over tube sheets, ft.-in.	19- 0
Fuel	Bituminous
Stoker	Standard Mod. B
Grate area, sq. ft.	96.5
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	348
Arch tubes	19
Syphons	91
Firebox, total	458
Tubes and flues	3,708
Evaporative, total	4,166
Superheater	1,695
Comb. evap. and superheat	5,861
Tender:	
Style	Rectangular
Water capacity, gal.	20,000
Fuel capacity, tons	25
Trucks	6-wheel

has been painted black. To retain a distinctive characteristic of the steam locomotive, a streamline cap has been shrouded around the stack and a smoke fin blended into the silhouette. The marker lamps are of special



Above: The Left Side of the Cab

Below: The Right Side of the Cab



design. The stainless steel side hand rail runs back from the marker lamps and follows the contour of the boiler jacket and cab. Streamline brackets secure the hand rail in place. Between the top cowling and the running board the shrouding follows the boiler contour lines and is painted gray. The throttle arm, injector checks and flue blowers have not been covered.

The cab is a decided departure from conventional design. Every effort was made to increase visibility. This has been achieved by a narrow steel corner post permitting an increase in the clear width of the front cab windows. The length of the cab is further emphasized by the use of aluminum sash with narrow horizontal mullions. By this means the glass area is greatly increased, providing a well-lighted cab interior. The vestibule cab door and window follow the streamline design of the sash.

Recognizing the public's interest in seeing the mechanism of the locomotive in action, the running gear has been exposed to full view by terminating the running board skirting above the tops of the drivers. The lower end of the running board drops down in a curve under the cab to the lower line of the tender and cars. Following the colors of the cars, the running board skirt has been painted in Milwaukee yellow with broad maroon skirts at the upper and lower edge. The wheels are painted gray with maroon rings around the ends of the axles on the hub, and the side, main and eccentric rods are highly polished with maroon in the channels. A chromium-plated builder's name plate is attached to the skirting at the cylinders and the name plate of the speed-line designer has been applied below the builder's plate in the black cylinder panel.

The tender treatment follows the color arrangement of maroon and yellow characteristic of the new 1938 passenger equipment.

The Tender

The tender tank is of all-welded construction and is built up on a Commonwealth water-bottom cast-steel underframe. The water capacity is 20,000 gallons and the coal space carries 25 tons. The hot well for the Wilson feed-water heater is on the left side behind the coal space.

The tender trucks are of the equalized six-wheel Commonwealth type with 38-in. Davis wheels and A. S. F. roller-bearing units. A. S. F. clasp brakes are used with 14-in. by 10-in. brake cylinders mounted inside on each truck. The braking ratio is 80 per cent.

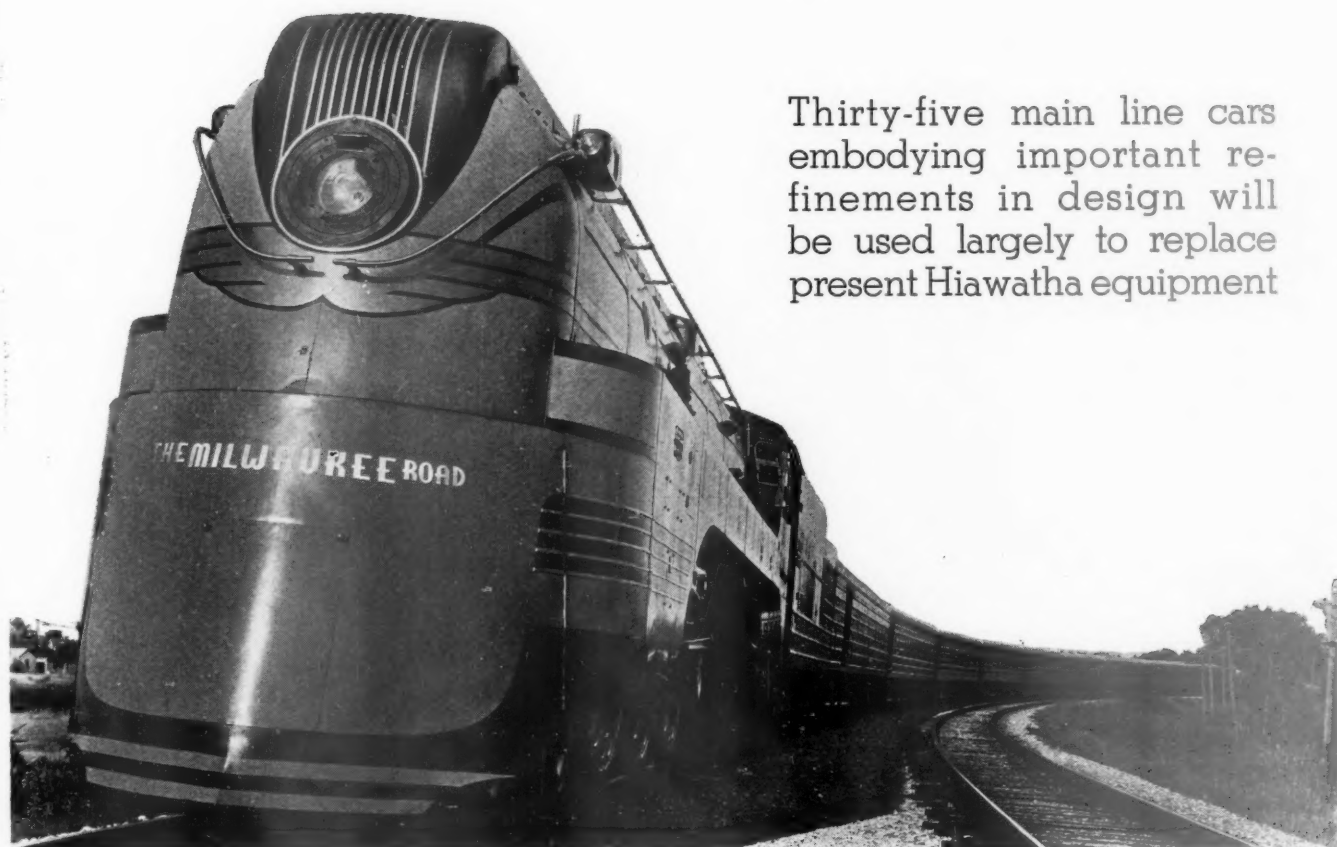
The steam-heat connectors at the rear end of the tender are the Vapor flexible metallic type. The draft gear is the Miner velvet action passenger gear with Buckeye Type E coupler and yoke.

Partial List of Materials and Equipment on the C. M. St. P. & P. 4-6-4 Type Locomotives

Engine bed; engine and trailer trucks	General Steel Castings Corp., Eddy-stone, Pa.
Wheels, engine and front trailer truck	American Steel Foundries, Chicago
Boxpok wheel centers	General Steel Castings Corp., Eddy-stone, Pa.
Roller bearings, driving box and engine truck	The Timken Roller Bearing Company, Canton, Ohio
Trailer-truck roller bearings	American Steel Foundries, Chicago
Side bearings	A. Stucki Co., Pittsburgh, Pa.
Brake equipment	Westinghouse Air Brake Co., Wilmerding, Pa.
Brake shoes	American Brake Shoe & Foundry Co., New York
Locomotive brakes	American Brake Co., St. Louis, Mo.
Lateral cushioning device; reverse gear	American Locomotive Co., New York

Spring; driving-wheel tires	American Locomotive Co., Railway Steel Spring Div., New York
Unit Safety drawbar; radial buffer	Franklin Railway Supply Co., Inc., New York
Dust guards	Cottman Co., Inc., New York
Pressure grease lubrication on engine and tender	Alemite Div. Stewart-Warner Corp., Chicago
Coupler, front engine	Buckeye Steel Castings Co., Columbus, Ohio
Copper tubing for oil and gage lines; copper pipe for water column connections and injectors ..	Chase Brass & Copper Co., Inc., Waterbury, Conn.
Tubes and flues	Globe Steel Tubes Co., Milwaukee, Wis.
Boiler and firebox plates	Lukens Steel Co., Coatesville, Pa.
Staybolt iron	(3) Joseph T. Ryerson & Son, Inc., Chicago
Staybolts	(3) Lockhart Iron & Steel Co., McKees Rocks, Pa.
Syphons	American Locomotive Co., New York
Brick arch	Locomotive Firebox Co., Chicago
Superheater and Tangential steam dryer	American Arch Co., Inc., New York
Smoke consumer; blower nozzles ..	The Superheater Company, New York
Lubricators	T-Z Railway Equipment Co., Chicago
Multiple throttle	Detroit Lubricator Co., Detroit, Mich.
Boiler lagging	Nathan Manufacturing Co., New York
Pipe insulation	Ohio Injector Co., Wadsworth, Ohio
Feedwater heater and conditioner; blow-off cocks and muffler; sludge remover	American Throttle Co., New York
Injectors; injector-steam valves; boiler checks	Johns-Manville Sales Corp., New York
Washout plugs	Union Asbestos & Rubber Co., Chicago
Stoker	Wilson Engineering Corp., Chicago
Fire door	Locomotive Equipment Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Flue blower	T-Z Railway Equipment Co., Chicago
Grates	Standard Stoker Co., Inc., New York
Window sash	Franklin Railway Supply Co., Inc., New York
Clear vision windows; windshields; cab ventilators	Superior Railway Products Corp., Pittsburgh, Pa.
Cab seat cushions	Waugh Equipment Co., New York
Cab insulation, Hairinsul	The O. M. Edwards Co., Inc., Syracuse, N. Y.
Safety valves; water-level indicator; back-pressure gage	The Prime Manufacturing Co., Milwaukee, Wis.
Steam and air gages	Sponge Rubber Products Co., Derby, Conn.
Water gage	Johns-Manville Sales Corp., New York
Water column; gage cocks	Locomotive Equipment Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Water conditioner	Ashton Valve Co., Boston, Mass.
Low-water alarm; blower fittings. Steam-heat regulator	The Okadee Company, Chicago
Whistle	The Prime Manufacturing Co., Milwaukee, Wis.
Bell ringer	Wilson Engineering Corp., Chicago
Tyfon horn	Barco Manufacturing Co., Chicago
Speed recorder	Vapor Car Heating Co., Inc., Chicago
Sander and valve	Locomotive Equipment Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Headlight; generator; cab lamps; speed recorder lamp; classification lamps; back-up light	U. S. Metallic Packing Co., Philadelphia, Pa.
Train control	The Leslie Co., Lyndhurst, N. J.
Cylinder cocks and open valves; valve-stem packing; piston-rod packing	Valve Pilot Corporation, New York
Globe valves	Morris B. Brewster Company, Chicago
Rod bushings	Pyle-National Co., Chicago
Bronze Duplex lip locked rings and Duplex springs; cylinder bushings; rod bushings; piston-valve bushings; piston valve bull rings; combination (bronze and iron) Duplex valve rings and springs	Union Switch & Signal Co., Swissvale, Pa.
Pipe fittings	T-Z Railway Equipment Co., Chicago
Oil connections	Ohio Injector Co., Wadsworth, Ohio
Flexible joints between engine and tender	Crane Co., Chicago
Tender: Frame and trucks	The Flex-O-Tube Co., Detroit, Mich.
Wheels and roller bearings; clasp brake	Barco Manufacturing Co., Chicago
Coupler and yoke	General Steel Castings Corp., Eddy-stone, Pa.
Draft gear	American Steel Foundries, Chicago
Tank hose	Buckeye Steel Castings Co., Columbus, Ohio
Tank valves	W. H. Miner, Inc., Chicago
	Hewitt Rubber Corp., Buffalo, N. Y.
	T-Z Railway Equipment Co., Chicago

Milwaukee Places New Passenger Equipment in Service



Thirty-five main line cars embodying important refinements in design will be used largely to replace present Hiawatha equipment

WITHIN the past few months the Chicago, Milwaukee, St. Paul & Pacific has constructed at its own shops and placed in service a substantial amount of new passenger-train car equipment which combines lightweight, welded alloy-steel construction with a full complement of ultra-modern features of passenger appeal, well adapted to increase still further the popularity of Milwaukee passenger-train service in the eyes of the traveling public. This equipment, designed by Milwaukee engineers in collaboration with Otto Kuhler, consulting engineer of design, New York, who was responsible for interior architectural treatment, decoration and arrangement of facilities, is notable for the beauty and simplicity of its lines, carefully planned coloring and tasteful decorations, all of which give a distinct impression of efficiency, comfort and spaciousness. Focused lighting has been further improved by fitting the lenses with metal louvers to eliminate practically all glare. The inside surfaces of metal car sides, ends, floors and roofs are treated with a plastic sound deadener and an efficient insulation is installed. The improved air-conditioning system includes a more satisfactory method of air distribution. A new type of lightweight, roller-bearing truck, rubber-insulated to an unusual degree and utilizing for the first time coil spring suspension, exclusively, in conjunction with hydraulic shock absorbers and a side-sway stabilizing device, are expected to give a new conception of riding comfort in rail passenger equipment.

The new Milwaukee passenger cars include 35 main-line units which will be used primarily to replace present equipment on the Hiawatha and consist of 15 standard coaches, six drawing-room parlor cars, four beaver-tail parlor cars, four express tap-room cars, four diners, and two railway postoffice cars. In addition, six replacement cars of the same general type are now under construction at Milwaukee shops, including one standard coach, one bunk-room coach, three baggage cars and one mail express. Twenty new branch-line cars, including 10 passenger-baggage and 10 passenger-baggage-mail cars, were recently constructed and placed in service, retiring older worn-out equipment. Present Hiawatha car equipment, replaced by the 35 new cars, will be released for service in trains not previously air-conditioned.

Six powerful high-speed streamline steam locomotives of the 4-6-4 type, with 84-in. driving wheels, recently delivered to the Milwaukee by the American Locomotive Company, described elsewhere in this issue, will be available for use on the Hiawatha whenever the number of cars hauled or other operating conditions necessitate.

Description of the New Hiawatha Cars

New cars for the Hiawatha, operating on a fast schedule between Chicago and the Twin Cities, Minn., were placed in service on September 19, comprising the third set of new equipment for this train which was operated



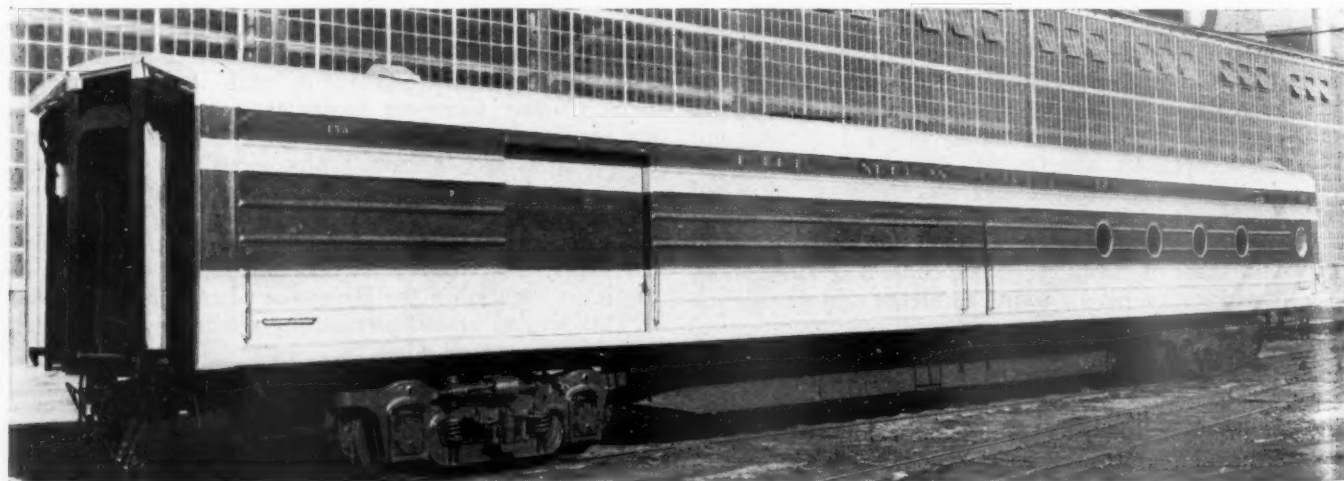
The Tap-Room Section—
The Illuminated Station
Indicator is Seen on the
Cocktail-Lounge Bulkhead

for the first time on May 29, 1935, and re-equipped on October 11, 1936. Each unit of the new train consists of an express-tap-room car, four luxury coaches, a cafe-dining car, two drawing-room parlor cars and one beaver-tail parlor-observation car. The coaches and parlor cars have vestibules at one end only. The express-tap-room car and dining cars have no vestibules. Referring to the table of scale weights, it will be noted that, as compared with the 1936 train (described in the *Railway Age* issue of October 17, 1936, page 548), the 1938 train is of practically equal weight, some of the individual cars weighing slightly more and others slightly less. They represent, however, a saving of at least 40 per cent in weight, as compared with equivalent cars of conventional riveted carbon-steel construction. The total number of revenue seats has been increased from 291 to 300 and non-revenue seats from 173 to 199, bringing the total

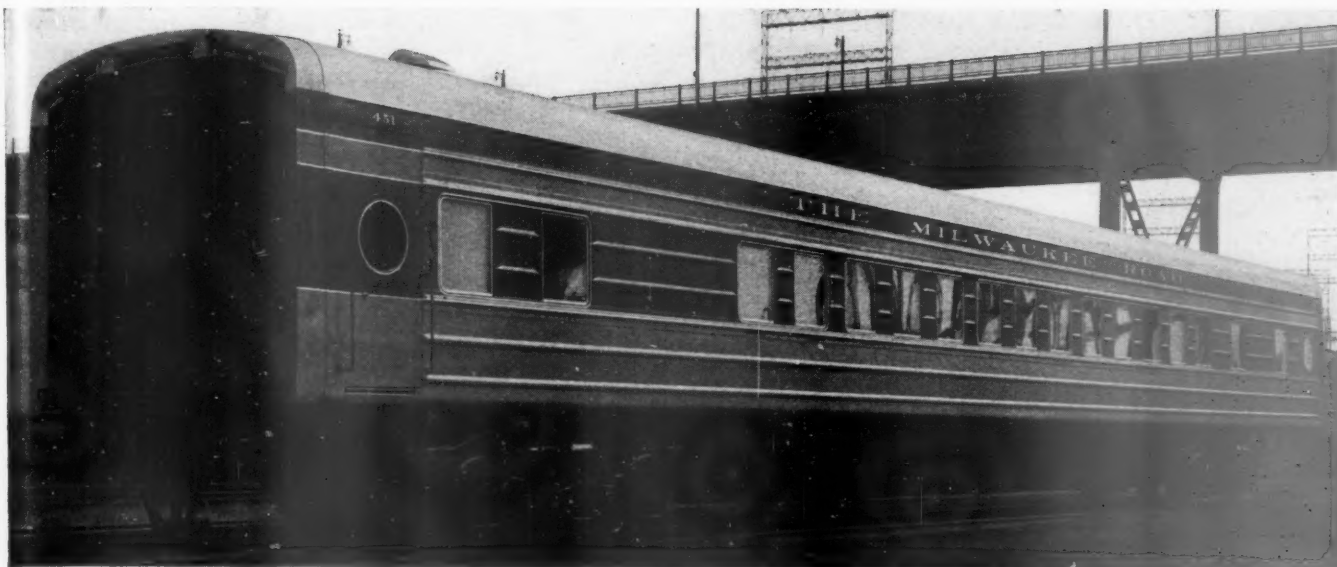
seating capacity in the new train up to 499. This means a reduction in car weight per individual passenger seat from 1,854 lb. to 1,716 lb., or 7.4 per cent. All of the new cars are practically 82 ft. long over the buffers.

The general scheme of interior decorations of these cars centers around the use of native woods and softness rather than brilliance of tone in color and ornamentation. The interior finish of the walls is in native walnut and bleached maple, and most of the exposed metals in ash trays, window hardware, etc., is a dark gun-metal finish. Stainless steel or brush-finished chromium has been used only on vestibule door handles, handrails, etc., where the gun-metal finish would not withstand the effect of constant handling.

The express-tap-room car has a 30-ft. space in the forward end available for baggage and express, and a 41-ft. 6-in. cocktail-lounge and tap-room section seating



Express-Tap-Room Car Notable for the Use of Circular Windows in the Passenger Section



One of the Luxury Coaches with the Vestibule Steps Raised and the Door Closed

44. Adjoining the bar, which is across the front end of this part of the car, is a cocktail lounge seating 12 persons. The seats, arranged along the sides of the car, have curved ends. The ends adjoining the bar have not been carried fully around the corner in order to provide a widening of the aisle space for the free movement of waiters to and from the side sections of the bar. The curving of the center and of each side section of the bar permits customers to stand undisturbed in the center, while waiters are served at the end sections near the sides of the car.

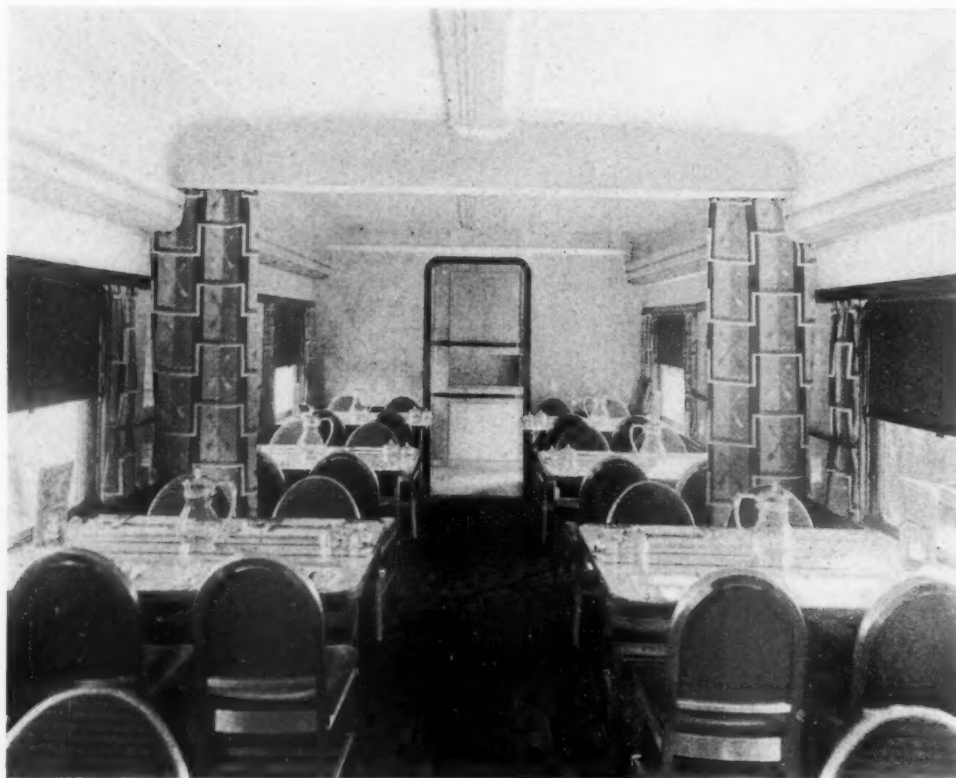
The walls of the cocktail lounge are painted a light coral color and, in order to give a wide and roomy impression, have no ornamentation, except the battens for the plywood on the walls. The seats are covered with cream leather. The lighting is indirect, coming from lamps which are placed behind the ceiling bulkhead which divides the cocktail lounge from the tap room. Four table lamps behind the seats also illuminate the cocktail

tables which are trimmed with circles of cream and red rubber. In the center of these tables are flush ash trays finished in gun metal.

The tap room is fitted with tables and transverse seats, arranged section-wise. Refreshments of all kinds are served in this room, which is equipped with a radio, and is open to all passengers. The seats have high backs in walnut and bas-relief designs of cast metal with gun-metal finish, showing scenes of Indiana history and early pioneering, are attached to the backs. Flush ash trays are set into the centers of the tables. The walls are finished in bleached maple and softened between the portholes with specially designed drapes, the pattern of which includes an Indian-arrow motif. Longitudinal louver lights are placed at the lower edge of the ceiling. These lights shed light directly on the tables and about 50 per cent is spilled under the canary-yellow ceiling to produce a soft glow throughout the room. The ceiling air duct is made from Burgess perforated aluminum



One of the Coaches Equipped with Center Ceiling Air Duct, Large Luggage Racks and Modern Seats



Looking Toward the Cafe Section in the Dining Car

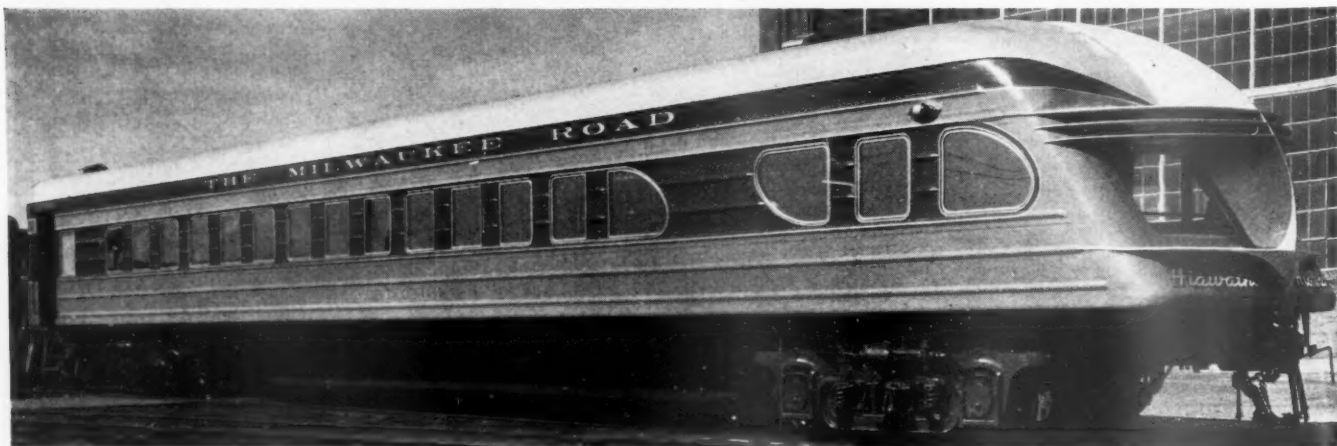
formed in an ornamental shape and trimmed at the bottom with a curved batten strip. This same arrangement is used throughout all the cars. The floor is covered with rubber of neutral brown closely matching the walnut trim.

In the bulkhead which separates the tap room from the cocktail lounge a unique station announcer has been built. The names of the stations in white letters, illuminated by spilled light from the indirect lights in the bulkhead above, are visible from the tap room. Small red bulbs have been arranged behind each station name. By a selector switch at the conductor's desk at the rear end of the car each station name may successively be illuminated in red light to show the next station stop. Immediately above the station names a clock has been installed. This, combined with the illuminated station name, is a reminder to the passenger to return to his seat in the train before the time of arrival at his destination.

Each of the luxury coaches has a 6-ft. women's lounge

in one end, seating 5; a 49-ft. 8 in. coach section, seating 56, and an 11½ ft. men's lounge in the other end, seating 9. The individual reclining chairs, with backs which may be locked in any desired position, are upholstered in old rose and green velour in alternate cars. Window shades are of canvas duck, dyed in the same colors. However, the old rose is applied in the cars with green upholstery, and vice versa. The walls are paneled with bleached curly maple and the wide windows are attractively set off in groups of two and three by intermediate panels of fluted black walnut. The ceilings are covered with aluminum leaf. The outside window sash are of extruded aluminum. The inside sash, however, are of walnut and sealed to the outside sash by small gun-metal-finished locks.

Louver type lighting fixtures are located from each beam in the face of the continuous luggage racks in the coaches and parlor cars. Grilles in the face of the Holophane lenses serve to remove the edge glare from this type of fixture and play an important part in the decora-



The Beaver-Tail Car with Its "Speedline" Observation End

tion of the car. In each car the grilles are painted either to match the seat upholstery or in orange. An effect of transparency and of colored light fixtures is produced, although the direct light from the fixtures is white.

The dining car, equipped with an 18-ft. 9-in. kitchen, a 9-ft. 6-in. pantry, and a 6-ft. refrigerator and linen locker section, has a cafe section 12 ft. 8 in. long which seats 16, and a main dining compartment 25 ft. 4½ in. long which seats 36, giving a total seating capacity of 52. This dining car, which strikes an entirely new note in modern design, is equipped with aluminum chairs upholstered with green and old-rose velours. Drapes over the wall panels between the windows partially separate the car into two rooms. The drapes are of the Hiawatha arrow-motif pattern similar to those used in the tap-room car.

The chairs in the small room are upholstered in green, and the longitudinal louver lighting and the ceiling are apple green. The chairs in the large room are in old rose, while the longitudinal louver lighting and ceiling are canary yellow. The rug, which harmonizes with the motif of the drape material, is predominately red and is of a pattern already in use on other Milwaukee dining cars.

The dining-car tables are bracketed to the wall, making the dining room floor completely accessible for cleaning without the obstruction of table legs. The rubber table tops are cream with inlaid brown stripes. A plain, modern buffet is installed at the kitchen bulkhead.

The walls and ceilings of the kitchen and pantry are covered with sanitary stainless steel. A new blower arrangement supplies cool, filtered air in the kitchen and pantry. The conventional coal range is replaced by a modern hotel range designed to burn propane gas with resultant fuel economy and decreased kitchen temperatures.

Each of the drawing-room-parlor cars has a 6-ft. women's lounge in one end, seating 5; a main parlor section 44 ft. 4½ in. long, seating 24; a 6-ft. drawing room, seating 5, and a 7-ft. men's lounge in the other end, seating 5. The parlor car is equipped with luxuriously upholstered revolving reclining-back seats. A drop table



Looking Toward the Observation Lounge in the Beaver-Tail Car

is placed at each seat. In the drawing room a studio couch is quickly convertible into a bed and two pull-up chairs make the drawing room ideal for small parties desiring privacy. There is also a bridge table. A 110-volt outlet permits the use of electric razors and appliances in the private lavatory.

The decoration of the drawing-room and the beaver-tail parlor cars are substantially the same as the coaches. The walls are finished in walnut below the windows and bleached maple above, with aluminum-leaf ceilings, and the upholstery is in green and old rose. The floor is

One of the Parlor Cars—The Interior Finish is American Walnut and Bleached Maple—Louver Lights are Shown Under the Luggage Racks



covered with a rug in a brown and gray design, which is expected to show footprints much less conspicuously than a rug in a plain color. A further touch of refinement is added by placing drapes of the special Hiawatha arrow design at each maple-paneled window post.

The beaver-tail parlor-observation car has a 7-ft. lavatory section in one end; a 50-ft. 8-in. main compartment or drawing-room section, seating 28, and an 18-ft. 3½-in. observation-lounge, seating 17. The observation-lounge, which is open to all parlor-car passengers, is separated from the chair section of the car by a partially glassed bulkhead. The arrow motif of the draperies is repeated in the sandblasted design on the glass panels. There are over-stuffed lounge chairs and settees for 14. This furniture is designed in wood along modern lines. Ash trays of new design of cast brass, finished in gun metal, are attached directly to the front of the chair arms. These are egg-shape in form and can be tilted for emptying without detachment from the furniture. All screws are hidden when the ash tray is in its normal position.

A wide sofa for three faces the rear. Behind this seat a shelf for magazines has been built, under which the back-up control equipment is housed. On top is a table lamp. The ceiling and the longitudinal louver lighting in this room are canary yellow.

The exterior fins on the rear of the beaver-tail car are more than decorative. They add to the structural strength, and the horizontal fins shade the large sloping windows from the direct rays of the sun.

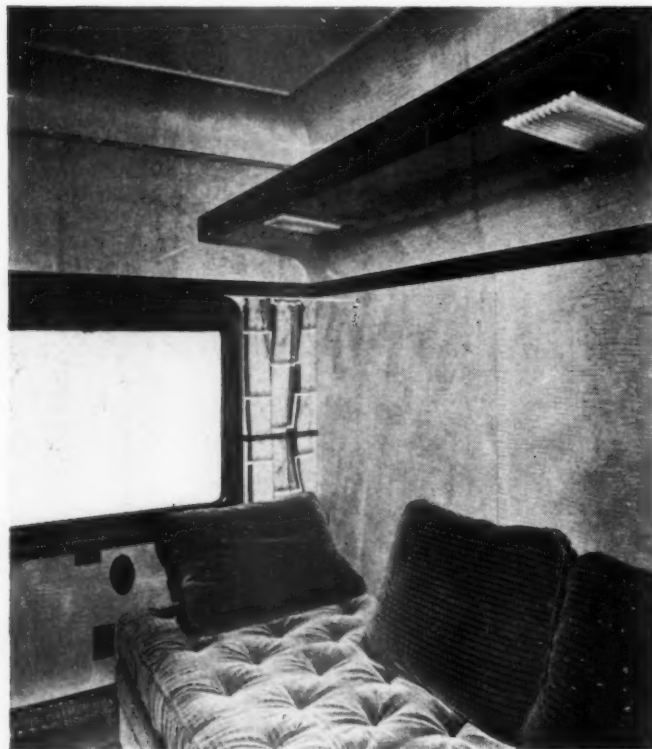
The men's rooms and ladies' lounges present substantially the same appearance both in the coaches and in the parlor cars. The furniture in the men's rooms is upholstered in green leather and, in the ladies' rooms, in mohair. The chairs are like those in the observation-lounge. The lighting in the men's rooms is similar to the louver-light fixtures in the coaches. In the ladies' lounges the same indirect longitudinal louver lighting is used as that in the tap-room car.

The walls of the vestibules are finished in Milwaukee

yellow with a 4-in. footboard painted in maroon. In the hallways the walls are trimmed with walnut veneer below the windows and bleached maple above the windows



One of the Ladies' Lounges



The Drawing Room of the Parlor Car is Furnished with a Studio Couch

To eliminate scratching from luggage bleached maple rubbing strips have been attached below the window sill. The same rubber flooring is used in the corridors as on the tap room and coach floors.

A new design of diaphragm enclosing the outer space between the car ends gives the train a smooth unbroken appearance and also serves to keep dust out of the vestibules. To further reduce air resistance underneath the train, retractable steps that are raised when the train is in motion have been installed at each vestibule. Hinged chromium-plated safety hand bars are for the first time made available to passengers going through the vestibules from one car to another.

Exterior Treatment

In order to improve the outside appearance as well as to provide a cleaner-looking train when in service a rearrangement of the two standard Milwaukee exterior colors—yellow and maroon—has been worked out for the new cars. In the Hiawatha cars built in 1934 there was a maroon letterboard and a maroon belt at the lower edge of the cars, with the sides finished in yellow. Thus the dark windows were emphasized in a background of light color which tended to make the windows look smaller than they actually are and to appear as single units rather than part of a continuous speedline panel. For the cars built in 1937 the side sheets were pressed to form continuous beading above and below the windows which effected some improvement by tying the windows

together. In the new cars the yellow between the windows has been replaced by maroon, thus fitting the dark-appearing windows into a continuous panel of dark color along the sides of the train. To effect a lowering in the appearance of the sides of the cars the maroon bottom belt has been left off and the yellow field below the windows extended to the bottom of the car side. The gray of the roof contrasts effectively with the maroon color of the letterboard, tending to give the cars a long, low appearance. A 1/2-in. aluminum stripe has been applied to the molding formed in the sheets below the letterboard and above and below the window panels. To heighten the effect of width the side windows are tied together in groups of two or three by an aluminum stripe which surrounds the windows on the maroon field. To accentuate this grouping the outer corners of each window group have been rounded.

Porthole windows are built in the sides of the express-tap-room cars. Windows of the same type have also been employed in the vestibule doors and in the toilets and passageways at the ends of the coaches and parlor cars opposite the vestibules.

Structural Features of 1938 and 1936 Cars Compared

The construction of the 1938 cars is very similar to that of the cars built in 1936. Cor-Ten steel is used throughout and the same fundamental principles of construction are employed. New window shapes and grouping of windows have been introduced in all cars, including the tap-room cars which have port-holes overlooking the tables. The underneath equipment is again suspended under the center of the car, but the shrouding is extended to present a smooth appearance from bolster to bolster.

The contour of the roof is slightly changed, circular arcs being substituted for the logarithmic curve previously used. This simplifies the fabrication of the carlines and permits the use of carlines rolled to contour instead of being die formed. The side construction is also modified to obtain more lateral stiffness by providing continuous longitudinal members above and below the win-



Men's Lounge in the Parlor Car

dows, these members being formed by pressing. The intermediate side sheets are formed into pans with flanges extending horizontally inward to the inside face of the



Vestibule Door Equipped with Anti-Pinch Hinges—Chromium-Plated Vestibule Safety Bars are Shown Locked in the Raised Position

side posts, and then vertically upward and downward along the post faces. The horizontal flanges of the side pans are slotted to receive the side posts which are threaded through the slots, each side pan being spot welded to the flanges of the posts in the flat section and arc welded to the post at the flanges of the pan. The window openings in the intermediate side sheets are cut out with a special torch. The intermediate side sheets, with their complement of side posts, form the principal elements of the side-frame assembly.

In the assembly of the side frame, the top, or letterboard sheets, and the lower side sheets are welded together in suitable clamps into a continuous length. The intermediate side-sheet assemblies are then laid in their proper sequence on the lower and upper side sheets and the side posts welded thereto. The flanges of the side pans are then securely welded together to form a continuous longitudinal stiffener.

The 1936 cars had corrugations in the side sheets above and below the windows only, while the present cars have a total of seven such corrugations, five extending the full length of the side while two in the side pan are interrupted by the windows. These corrugations also contribute to lateral stiffness and aid materially in obtaining smooth-appearing side sheets.

The floor construction is also modified slightly in that the pan construction is replaced by Z-shape floor supports welded to the floor beams. The side sills are increased from 3-in. to 4-in. Z-shapes, which not only strengthen the side construction but also afford better fastening for the floor supports and side posts to the side sills.

The interior arrangement is extensively modified by the total elimination of all metal trim. This includes the inside window sash, window frames and sills which, in the 1936 cars, were made of extruded aluminum and, in 1938 cars, are walnut. The other sash, however, are

the same as used in 1936 and the inside sash are hinged in the same manner.

Heating is changed from a blast system to a combination of direct fin radiation along the floor, with positive air circulation provided by a blower. Air passing through the blower is tempered by means of a set of heating coils to offset the lower temperature of the fresh air taken into the car by the ventilating system. The floor radiation is of the new Vapor single-pipe arrangement in which the steam-supply pipe is inside the fin pipe. These changes in the heating system resulted in a considerable weight reduction. The method of air distribution is also changed and, instead of introducing the air into the car through grilles in the side walls, the air is now introduced through a trough in the center of the ceiling.

Details of Truck Construction

Important changes are also made in the trucks used under the new cars which are of the four-wheel, lightweight alloy-steel type, with conventional swing-motion

Scale Weights and Seating Capacities of Hiawatha Trains of the C. M. St. P. & P.

Type of car	1934 Hiawatha		1936 Hiawatha		1938 Hiawatha	
	No. of cars	Weight, lb.	No. of cars	Weight, lb.	No. of cars	Weight, lb.
Express tap-room ...	1	131,500	1	96,200	1	98,800
Coach	4	448,800	4	379,600	4	373,600
Diner	1	102,300	1	102,300	1	105,400
Parlor car	1	113,700	1	95,100	..	..
Drawing-room parlor..	1	95,200	1	95,200	2	186,600
Beaver-tail parlor ...	1	112,900	1	92,000	1	91,700
Total car weight...	7	806,900	9	860,400	9	856,100
Number of revenue seats		238		291		300
Number of non-revenue seats		138		173		199
Total seating capacity..		376		464		499
Car weight per passenger seat		2,146		1,854		1,716

bolsters and spring planks and all journals fitted with Timken roller bearings. The truck, with the truck-mounted generator, weighs 14,961 lb., which may be compared with 14,513 lb. for the 1936 truck and 15,195 lb. for the 1934 truck. The non-generator equipped truck weighs 13,709 lb.

One feature of the new truck design is the entire

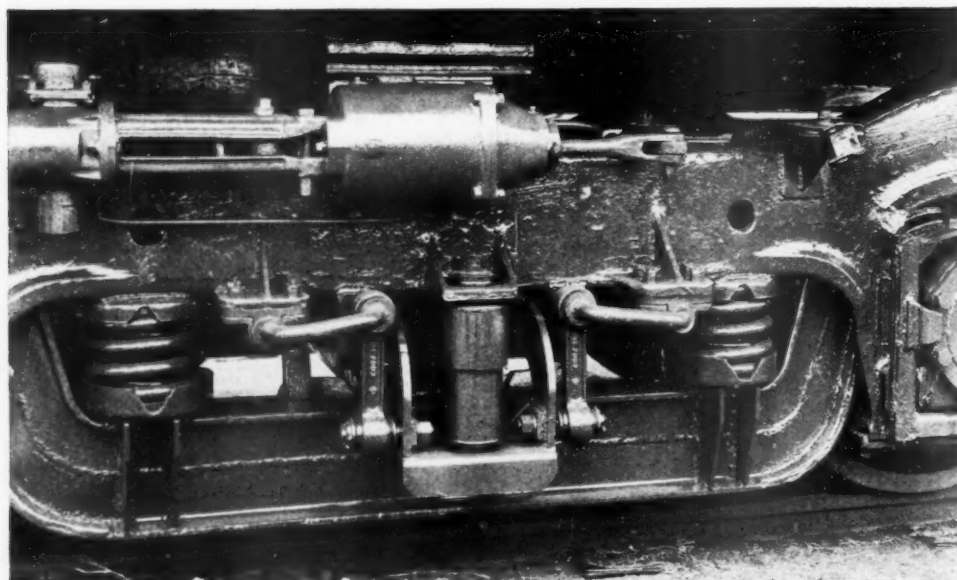
elimination of elliptic springs which are replaced by large triple-coil alloy-steel spring groups, the outer spring being 14 in. in diameter. These spring groups have a difference of 14 in. between the free height and the working height, thus providing an unusual degree of flexibility and "spring."

To promote easy riding by the damping of vertical oscillation, the truck is equipped with Monroe hydraulic shock absorbers applied between the bolster and the spring plank, one on each side of the truck. Automotive-type leveling bars also extend across the truck frame and are connected to the bolster by swing hangers. These bars operate in such a way as to steady the bolster and keep it level by transferring or equalizing the unbalanced load on the bolster springs when one side of the truck moves up or down due to irregularities in the track surface. The trucks are equipped with medium lightweight, rolled-steel wheels, heat-treated carbon-steel axles, General Steel Castings truck frames, Simplex unit-cylinder clasp brakes and Westinghouse H. S. C. brake equipment. To assist still further in smooth train handling when braking Miner velvet-action passenger draft gears are installed.

Another feature of the new truck is the extensive use of rubber to dampen vibration and eliminate shock and noise in so far as possible. For example, a circular rubber pad 1 in. thick in the bottom of each bolster center plate carries the car weight, and vulcanized steel and rubber segments line the center-plate flange. The Miner self-locking truck center pin is rubber-bushed. Circular rubber pads are applied on top of the large bolster coil springs. Bolster bumper blocks are made of rectangular rubber pads. Bolsters are positioned by four large rubber-insulated bolts which prevent bolster contact with the chaffing plates. Rectangular rubber pads are applied under the friction side bearings and the holding bolts are also set in rubber. The generator-support bearings are made of rubber and the Monroe bolster snubbers are insulated by four rubber bushings. The leveling bar and hangers also are rubber-bushed and a rubber hose is used to cover the hand-brake wire cable.

Car Parts Made at Milwaukee Shops

In addition to fabricating Hiawatha car structures by the welding process at Milwaukee shops, the following
(Continued on page 447)



The Truck, Showing Coil Spring Suspension, Hydraulic Shock Absorber and Leveling Bar

These Flat-Slab Concrete Bridges Embody Unusual Features



Above—Looking Down on the Completed Ferry Street Bridges. Right—The Same Bridges From the D. L. & W. Side



Construction of parallel structures on Erie and Lackawanna at Binghamton, N. Y., involved use of unique detour trestle by both roads

By **A. Burton Cohen**

Consulting Engineer, New York

A NUMBER of interesting engineering problems as well as several unusual features of design characterized the construction at Binghamton, N. Y., of a street subway under the parallel double-track main lines of the Delaware, Lackawanna & Western and the Erie. In this project, which was completed in 1937, the traffic of the two roads, during the construction of the respective street bridges, was carried alternately on a trestle in narrow space between the two bridges. In the construction of this trestle a difficult sub-soil condition led to the novel use of cylindrical earth piers, enclosed with steel sheet piling, as supports for a structural steel trestle deck.

Notable among the design features embodied in the permanent street bridges are the use of flat-slab construction in a skew layout, the incorporation of a line of supporting columns in one of the abutments and the use of an overhanging slab behind the same abutment for the purpose of maintaining slab continuity and as a means of reducing the size of the abutment to retaining wall proportions. The hanging slab also facilitates drainage discharge from the bridge deck and, in general, results in a better end condition.

Part of Larger Project

The construction of these under-crossings comprised an integral part of a much larger project which involved the building of a three-span reinforced concrete high-

way bridge to carry Ferry street across the Chenango river to replace a through girder steel structure that was washed away during the flood of July, 1935. At this location, the river flows in a southerly direction. A short distance north of the Ferry Street bridge it is crossed by separate parallel bridges carrying the double-track main lines of the Erie and the Lackawanna, the approaches of which are elevated on earth embankments. In the middle of the river the two railroad bridges are about 90 ft. apart, center to center, the Erie structure being on the north. Since the two railroad lines converge slightly toward the west, they are somewhat closer together west of the river and for some distance are supported on a common embankment.

The Ferry Street bridge connects the central portion of the city of Binghamton, which is located on the east bank of the Chenango, with a secondary business section along Clinton street west of the river. It also comprises a quick outlet for traffic to Syracuse and points north along Front street, which is parallel with and adjacent to the west bank of the river.

The approaches to the old Ferry Street bridge consisted of a succession of short, narrow, dead-end streets and blind corners, which were an inheritance of the horse and buggy days. On the west bank of the river, Ferry street terminated in a T-intersection with Front street, which is carried under the tracks of the two railroads by an under-crossing north of its intersection with Ferry street. Directly north of this under-cross-

ing Front street is intersected from the west by Clinton street, which follows along a retaining wall supporting the Erie embankment. In reconstructing the river bridge, it was decided to eliminate these traffic impediments by rotating the Ferry Street alignment 15 deg. northwardly to ease the turn into Front street for northbound traffic and to extend Ferry street through the railroad embankment by means of a new under-crossing to a 45-deg. intersection with Clinton street to give direct access into the latter street.

At the intersection of Ferry street with Front street, the curbs are flared out and connected by long-radius curves. To safeguard pedestrians and to establish an orderly turn of vehicular traffic, a safety island 8 ft. in width and 50 ft. in length, was placed in the center of Ferry street at the east line of Front street. So that the division of traffic thus established would be maintained through the under-pass, a corresponding island, 5 ft. wide, was installed throughout the length of the subway, thereby dividing the 44-ft. four-lane highway into two 22-ft. one-way lanes. This safety island serves to carry a center line of columns which made possible the use of a continuous concrete slab deck on the railroad bridges, this type of construction being not only highly economical but well adapted to the conditions of the site and to the requirements of roadway and sidewalk widths and clearances.

As there was sufficient space between the two double-track lines for the construction of a joint two-track detour line, it was possible to detour traffic of the two roads alternately during the construction of the respective bridges. The Erie bridge was constructed first and, after the traffic of this company had been restored to the permanent alignment, that of the Lackawanna was detoured while its bridge was constructed. Thus, each structure was built independently of train operation so that, in each case, the entire slab, comprising about 490 cu. yd. of concrete, was poured in one continuous operation, thereby preserving full continuity.

Detour Line Presents Difficulties

The construction of the detour track, however, was not effected without difficulties. In the first place the distance between Ferry street and the Front street under-crossing was not sufficient to accommodate the turn-out curves; therefore it was necessary to construct a temporary trestle across Front street between the existing structures to carry the detour tracks. Even with this trestle, the restriction imposed by the proximity of the westerly abutments of the river bridges made it nec-

essary to use six-degree curves in the alignment of the detour track. So limited was the space, furthermore, that the trestle, which was located originally to fit the Erie alignment, had to be shifted bodily when it was incorporated in the detour alignment for the Lackawanna.

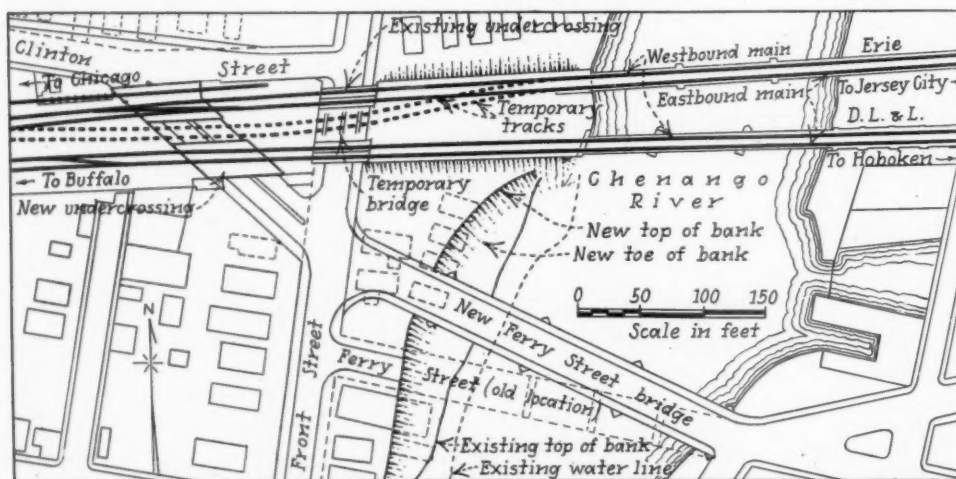
In the second place, difficulties were encountered in establishing a suitable crossing for the detour track over the projected alignment of Ferry street. Here it was originally planned to drive the customary temporary double-track timber pile-bent trestle between the locations of the permanent bridges where there was just sufficient space for minimum operating clearances. However, while plans for the new under-crossing were still in the development stage, the railroads, while engaged in an extensive grade crossing elimination project somewhat to the west of the Ferry Street location, found it impossible to drive timber piles.

Despite this finding, it seemed logical to assume that piles could be driven at the site of the new under-crossing where the roadbeds were definitely supported on earth-fill embankments. However, three test piles driven with heavy railroad pile-driving equipment showed a possible penetration of only 15 ft., whereas a penetration of 25 ft. was necessary to reach below the foundations of the adjacent bridges. Following this finding, plans for the timber trestle were abandoned. A possible alternative consisted of the driving of a rectangular enclosure of steel sheet piling to fit the opening between the two bridges between the back faces of the abutments, the excavation of this enclosure to the base of the bridge footings with a clamshell bucket from the track level and the construction of a timber bent trestle therein. It was recognized, however, that this expedient would materially increase the cost of the trestle, would augment the construction hazards at the track level and would slow up the work.

Enclosed-Earth Piers

Finally, it was decided to adopt a novel expedient involving the use of cylindrical enclosed-earth piers for supporting a structural steel I-beam deck. These piers were formed by driving steel sheet piling in circles 12 ft. 9½ in. in diameter into the embankment. Five piers, on 34-ft. centers, were driven along the center line of each track for supporting a six-span deck. In this arrangement, the piers were so positioned that they did not interfere with the construction under traffic of the retaining walls that extend between the abutments of the new bridge.

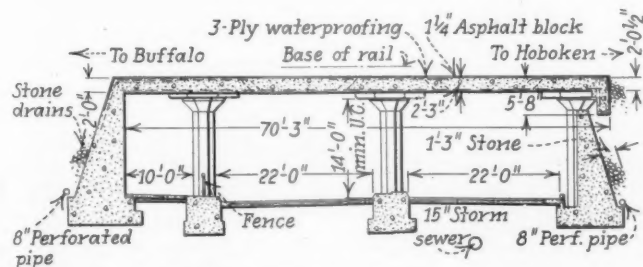
No serious difficulty was encountered in driving the



General Plan of the Street and Railroad Situation at Binghamton, Showing the Location of the New Under-Crossing

steel sheet piling, for which purpose a cylindrical timber form or templet resting on the ground was used as a guide. Every third sheet pile was driven 2 ft. below the base of the adjacent bridge footings, and the remainder 1 ft. below the proposed subgrade of the roadway through the under-crossing. After a cylinder was completed, the encased earth was wet down and tamped in preparation for receiving a timber grillage composed of three tiers of 12-in. by 12-in. timbers, which spread the track load over the entire area of the cylinder.

After the earth had been entirely removed from around the cylinders during the final stages of the project, a



Right Angle Cross-Section Through the D. L. & W. Bridge Across Ferry Street

slight settlement of the track occurred due to the tightening of the interlocking joints of the piling, which was corrected immediately by shimming the I-beam supports. This entailed very little extra work compared with that which would have been involved in the application of additional bracing necessary to a timber trestle during the removal of the surrounding earth and involved little of the hazard that would have attended such operations. The wide spacing of the cylindrical piers expedited the excavation for the under-crossing, which was done freely with a power shovel, and afforded ample openings for bridge construction operations.

Bridges Carry Three Tracks

Each of the railroad bridges at the Ferry Street under-crossing carries three tracks with a lateral clearance of 10 ft. between the center line of the outside track and the inside face of the balustrade. The bridge balustrades are parallel with the tracks, which cross the center line of the under-crossing at an angle of about 45 deg., and since the abutments are parallel with the longitudinal axis of the roadway, the slab deck enclosing these boundaries is a parallelogram in outline.

On the roadway level, the abutments are 65 ft. 6 in. apart, providing for a 14-ft. sidewalk along the west side of the under-crossing and two 22-ft. roadway lanes separated by the 5-ft. safety island. The slab deck is supported by three lines of octagonal columns, 3 ft. and 3 ft. 2 in. in diameter, which are arranged parallel with the longitudinal axis of the under-crossing. One line of columns is located on the sidewalk along the curb, the second is placed on the safety island, and the third is built integrally with the easterly abutment in such a manner that one-half of each column projects beyond the face of the abutment in pilaster effect. In order that the longitudinal continuity of the slab over the latter row of columns will be maintained, the capitals of these columns project above the top of the abutment wall.

Another interesting feature of the construction at the east abutment is the apron or depending slab, poured with the deck slab, which overhangs the abutment wall

at the back. The purpose of this wall is to reduce the horizontal thrust of the live load surcharge and pressure of the back fill on the abutment section and, because of the pressure relief which it affords, it was possible to effect a considerable reduction in the abutment wall section as compared with that which would have been required in the absence of the apron wall. Since the slab is supported along the east abutment only at the column points, full flat-slab panel action is developed.

The fascia columns under the parapets are set back sufficiently to allow them a full capital and drop panel so that the overhanging slab will give a better load balance to these exterior supports. This arrangement places the transverse center lines of the columns normal to the longitudinal center lines and establishes approximately equal spacing of the columns along both lines. The result is a symmetrical division of the slab area into a combination of triangular and rectangular—almost square—panels. Since the outside track crosses the exterior or fascia triangular panels parallel to their bases and through their centers of gravity, the tendency is toward uniform load distribution to the column supports.

The Erie bridge was designed for Coopers E-70 loading and the Lackawanna structure for E-65 loading, which accounts for the fact that the slab thickness of the Erie bridge (2 ft. 4 in.) is slightly greater than that of the other structure, which is 2 ft. 3 in. In each case, the top of the slab slopes off 3 in. to the outer edge at the abutments to allow for drainage.

Design of Slabs

In designing the slabs, the live load was assumed to spread laterally over a width of 13 ft., this being the distance between track centers. With this assumption, the wheel loadings were converted into their equivalent uniform loading for the skew spans, which are measured along the line of the tracks between the centers of the



View of the Temporary Trestles From the Erie Excavation, Showing the Enclosed-Earth Piers Partly Exposed. The Compact Character of the Embankment Material Is Clearly Evident

column supports. The uniform equivalent loading thus obtained was used to design the four-way reinforced flat slab in accordance with the adopted regulations of the American Railway Engineering Association. The total combined live and dead load was 1,950 lb. per sq. ft., for the Erie design and 1,840 lb. per sq. ft. for the Lackawanna structure. The impact factor included therein amounts to 62 per cent of the static live load.

Each direct band was loaded with such full or partial

loading as produced the maximum moment at the particular point under consideration, making the loading consistent with the location of the various tracks with respect to the band. These maximums were computed by the theorem of three moments, the result being modified by a coefficient to allow for the shortening of the span due to the spread of the column capitals. This co-

efficient was obtained by the formula $\left(1 - \frac{C}{L}\right)^2$

in which L equals the distance between column centers and C represents the diameter of the column capital.

The combined resisting moment of the diagonal bands of an interior panel was considered as being equal to that of the two half direct bands in the same direction in that panel. In the panels where there is continuity over the adjacent columns in one diagonal band of the panel and no continuity in the other so that, the deflections being equal, one band carries the greater load, the required steel was apportioned to the bands to give the same steel stresses in each.

The long facia band of the exterior triangular panels was designed to carry that part of the 13-ft. spread of the live load of the outside track that is superimposed upon it. This partial loading is resisted by the full 12-ft. width of the band in the case of the Lackawanna bridge.

In designing the facia band on the southerly side of the Erie bridge, the work was complicated by the necessity of making provision for a future fourth track to be placed on the southerly side of the east-bound main track and on 13-ft. centers with it. As the face of the slab is 11 ft. from the center line of the east-bound main, it will be necessary, when the future track is put in, to construct an additional 13 ft. of structure for its support. This structure will, perhaps, consist of wide-flange I-beams encased in concrete supported on two-column bents built in line with the columns of the flat slab bridge.

On this side, therefore, the slab was designed for the possible future condition with the full live load (13 ft. distribution) covering the slab to the edge. This necessitated very heavy reinforcement in the facia panel, the condition being especially severe nearest the acute angle of the slab where there is no flanking span to give continuous action over the column. Compression steel was used in the slab throughout the two long spans of this facia band. So that the parapet on this side of the structure may be removed without difficulty and with no damage to the slab, it was constructed separately from the slab, using a construction joint and key.

Continuous Footings

The three-column bents along the curb line and on the center safety island under each slab are supported on continuous reinforced footings. These footings, which are in the form of an inverted T-beam, have a stem 5 ft. in width which projects 8 in. above the gutter to serve as the curb and (in the case of the one footing) as part of the sidewalk. By using a continuous footing with its attendant narrow width, more space was made available between the foundations for utility lines, sewer and gas mains.

Furthermore, compared with individual column footings, the continuous footing diminishes, or actually precludes, the possibility of uneven settlement of the deck slab supports. This is of particular value on account of the slab continuity. By a slight addition to the width of the thin flange of the inverted T-beam of the footing, the soil pressure can be greatly reduced. The footings are designed for a maximum soil pressure of $3\frac{1}{2}$ tons per sq. ft. (without impact). Under the toe of the abut-

ment, the maximum eccentric pressure was limited to $4\frac{1}{4}$ tons per sq. ft.

Water-Proofing Protection

The bridge decks are waterproofed with two layers of saturated cotton fabric, weighing 4 oz. per sq. yd. before saturation, which was laid in three swabbings of hot asphalt. To prevent possible abrasion resulting from subsequent construction operations, the built-up membrane, about $\frac{3}{16}$ in. in thickness, was covered immediately after the final swabbing of asphalt with one ply of asphalt-felt cap sheet roofing weighing 68 lb. per 216 sq. ft.

Finally a 2-in. layer of concrete was poured over the waterproofing membrane to preclude abrasion by move-



Construction View of the Erie Bridge. Note That Erie Traffic Is Being Routed Over the Temporary Trestle

ment of the stone ballast. To exclude the irregular cracks that inevitably develop in thin layers of concrete poured continuously over large areas, the protection coat was poured in separate rectangular panels, none of which exceed 400 sq. ft. in area. The construction joints thus formed, which are proportionate in extent to the shrinkage cracks that would otherwise be expected to develop, were made $\frac{1}{2}$ in. in width and are regular in shape. The lower half of each joint is formed with a $\frac{1}{2}$ -in. strip of premolded joint filler and the upper half was filled with hot asphalt. Reinforcement in the protective coating of concrete consists of welded wire mesh weighing 30 lb. per 100 sq. ft., which was carried through the construction joints.

Drainage water from the bridge deck flows freely over the ends of the slab and, to facilitate its movement to an 8-in. perforated galvanized iron pipe set along the base of the abutments and adjacent walls, a series of porous stone piles were built up in columns behind each abutment, which are 10 ft. in width, 15 in. in thickness and 10 ft. apart.

The facia of the balustrades of the new under-crossing, including those along the adjacent sides of the two bridges as well as those of the retaining walls between the two structures, are attractively treated with a modernistic design. To offset the lack of symmetry in the column arrangement about the center line of the roadway, the balustrades facing both Front and Clinton streets, and a portion of the deck slab in each case, were extended back of the east abutment to correspond to the span across the sidewalk at the opposite side of the roadway. At Front street, this motif is carried through in

the under part of the structure by means of appropriately treated wing walls while at Clinton street the appearance of a sidewalk span is effectively simulated by flaring a short section of the abutment wall out and by placing a column at the end of the flared section. However, the primary purpose of this flare in the abutment is to give westbound motorists in the subway a better view of westbound traffic on Clinton street.

Underpinning Wall

To obtain the desired under-clearance through the subway, it was necessary to construct the roadway at a somewhat lower level than Front and Clinton streets so that both of these streets had to be lowered in the vicinity of the subway, the latter a maximum of 9 ft. Immediately west of the new under-pass, the outside track of the Erie is supported on a concrete trestle containing bins into which coal is unloaded from hopper cars. Adjacent to this trestle is a small coal storage yard which, because it is reached from the street, had to be lowered about 8 ft.

This required the construction of an underpinning wall for supporting the old trestle bents. To preclude any disturbance of the foundations of the trestle bents and tracks behind this supporting wall, a line of interlocking steel sheet piling was driven between the trestle bents along the outer face of the track stringers of the trestle. This sheet piling was driven in the final position to a depth of five feet below the base of the new underpinning wall before the excavating work was started. After the excavation had been completed, the wall was cast against the piling which remains permanently in place.

In the pouring of the concrete deck of the new under-crossing, in order to assure the placing of the required amount of concrete in a continuous operation with only limited overtime, it was specified that the contractor provide a mixing plant having a capacity of not less than 250 cu. yd. in an eight-hour working day. All concrete was deposited in place by bottom dump buckets handled by a tractor crane, the use of long chutes for this purpose being prohibited.

The entire project at Binghamton was carried out under the general supervision of C. A. Harrell, city manager, and John A. Giles, city engineer, of Binghamton, while the plans and specifications were developed under the direction of the writer. Collaborating closely in the planning and construction of the under-crossing were the engineering departments of the two railroads under G. A. Phillips, chief engineer of the Lackawanna, and G. S. Fanning, chief engineer of the Erie. The under-crossing was built under contract by the Walsh Construction Company, Syracuse, N. Y.

Funds for the entire project were made available under a P. W. A. grant.

Milwaukee Places New Passenger Equipment in Service

(Continued from page 442)

car parts were manufactured locally: Truck equalizers, made from flame-cut and welded I-beams; bolster swing hangers, forged; friction side bearings; roller-bearing housings, inner and outer; generator and axle pulleys, V-belt type; diaphragms, inside and outside; folding vestibule steps; air ducts and grilles; water tanks; basket racks; interior finish, American wood veneers, including

doors, partitions and side walls; bar fronts; aluminum baggage-car doors, and wood smoking-room furniture.

Partial List of Materials and Equipment on 35 New Milwaukee Main-Line Passenger Cars

High-tensile low-alloy steel for welded car structures	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Aluminum sheets and tubing for baggage doors, air ducts, etc...	Aluminum Company of America, Pittsburgh, Pa.
Lightweight rolled-steel wheels ..	Edgewater Steel Company, Pittsburgh, Pa.
Heat-treated carbon steel axles ..	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Roller bearings on all journals ..	Standard Forgings Company, Chicago
Truck and car end castings	Timken Roller Bearing Company, Canton, Ohio
Truck coil springs, alloy steel ...	General Steel Castings Corp., Granite City, Ill.
Unit-cylinder clasp brakes	Railway Steel Spring Company, New York, N. Y.
Self-locking truck center pins ...	American Steel Foundries, Chicago
Air brakes, Schedule H. S. C...	W. H. Miner, Inc., Chicago
Safety hand brakes, Ideal	Westinghouse Air Brake Co., Wilmerding, Pa.
Couplers and yokes, high-tensile cast steel	W. H. Miner, Inc., Chicago
Friction buffers and draft gears..	Buckeye Steel Castings Co., Columbus, Ohio
Rubber used in truck construction	W. H. Miner, Inc., Chicago
Coupler and buffer-stem wear pads	United States Rubber Co., New York, N. Y.
Bolster vertical shock absorbers..	Fabreeka Products Company, Boston, Mass.
Steam-jet air-conditioning system..	Monroe Auto Equipment Co., Monroe, Mich.
Heating equipment and temperature control	Safety Car Heating & Lighting Co., New York, N. Y.
Car lighting generators, 10 kw...	Vapor Car Heating Company, Chicago
Electric storage batteries	Safety Car Heating & Lighting Co., New York, N. Y.
Charging receptacles	Electric Storage Battery Co., Philadelphia, Pa.
Electric exhaust fans	Gould Storage Battery Co., Depew, N. Y.
Air filters	Albert & J. M. Anderson Co., Boston, Mass.
Water coolers	Holmes Fan Company, Chicago
Hardware and anti-pinch hinges..	Air-Maze Company, Chicago
Truck lock washers	Ebco Mfg. Company, Columbus, Ohio
Self-tapping screws	Loeffelholz Company, Milwaukee, Wis.
Insulation:	A. M. Castle Company, Chicago
Stonefelt, 2½ in. thick in floors	Shakeproof Lock Washer Co., Chicago
Hair felt around air-cond. ducts	Johns-Manville Sales Corp., New York, N. Y.
Dry Zero, flameproof, 2½ in. thick in sides, ends and roofs	American Hair & Felt Co., Chicago
Cork board, 2½ in. thick in ice boxes, bottle lockers, etc.	Dry-Zero Corporation, Chicago
Felt stripping used between inside metal sheets and posts..	Armstrong Cork Prod. Co., Lancaster, Pa.
Dednox applied to inside metal sheets for sound deadening ..	Western Felt Works, Chicago
Pipe covering	Dednox, Inc., Chicago
Ventilators	Johns-Manville Sales Corp., New York, N. Y.
Wash stands	Union Asbestos & Rubber Co., Chicago
Hoppers	Railway Utility Company, Chicago
Outside window sash	Standard Sanitary Co., New York, N. Y.
Glass—De-hydrated sash used in observation car ends	Duner Company, Chicago
Window shades	Adams & Westlake Company, Elkhart, Ind.
Lighting fixtures	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Coach seats	Railway Curtain Company, Chicago
Dining car chairs	Loeffelholz Company, Milwaukee, Wis.
Observation lounge chairs	Heywood-Wakefield Company, Boston, Mass.
Plush seat covering and drapes ..	Coach & Car Equipment Co., Chicago
Plush seat covering	General Fireproofing Co., Youngstown, Ohio
Leather seat covering	American Chair Company, Sheboygan, Wis.
Ajax drinking cup dispensers ...	L. C. Chase & Co., Inc., New York, N. Y.
Radio and loud speakers	Massachusetts Mohair Plush Co., Boston, Mass.
Marker lamps	Cleveland Tanning Co., Cleveland, Ohio
Stainless steel-faced plywood in diner, kitchen and pantry	Logan Drinking Cup Company, Chicago
Plywood for car interiors	Galvin Mfg. Company, Chicago
Exterior paints	Pyle-National Company, Chicago
	Haskelite Mfg. Company, Chicago
	Metal-Wood Company, Chicago
	Algoma Plywood & Veneer Co., Chicago
	Harbor Plywood Co., Hoquiam, Wash.
	Wheeler-Osgood Co., Tacoma, Wash.
	Murphy Varnish Co., Chicago

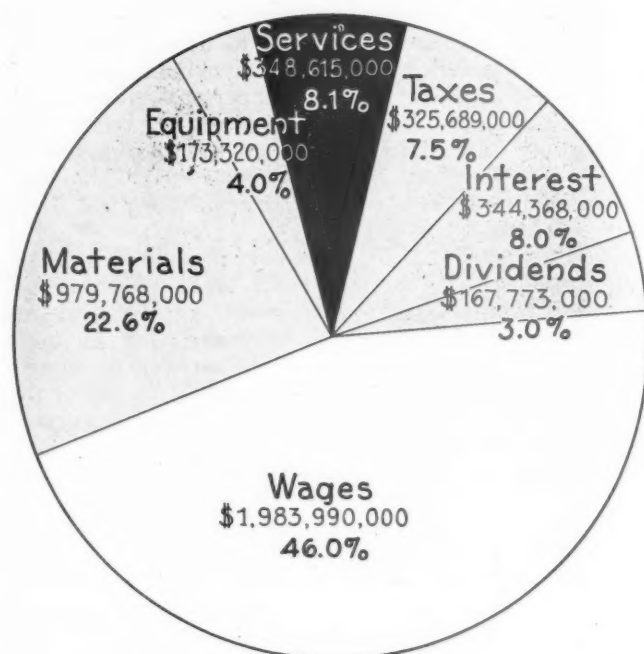
"Forgotten Purchases" Totaled \$348,000,000 in 1937

Railway spending for services exceeds taxes—Contractors, utilities, newspapers, radio stations and hospitals share in appropriations

FOR the second consecutive year the *Railway Age* has gathered statistics of the payments made by railroads for services, which again bring out the fact that the railroads pay out large sums each year for other than materials and equipment and for taxes, interest and dividends and thus contribute more largely to business activity and employment than the usual statements of railway expenditures and disbursements indicate.

These expenditures, called "forgotten purchases" because they are habitually neglected in studies of railway buying, involve payments to telegraph and telephone companies for communication service, including the rental of pole lines and equipment owned by commercial companies. They include payments to utilities for heat and power, payments to contractors of railway construction projects and for the railroads' proportion of the cost of grade separation work. They include payments for cartage and other work performed under contract, expenditures for advertising in newspapers, magazines and over the radio, rentals paid for land and buildings and for the use of privately-owned cars, purchases of land, insurance payments, payments to law firms for legal services, payments to doctors and hospitals, funds for non-railway clubs, bureaus and associations and scores of other disbursements incident to the operation, maintenance and protection of the carriers.

In accordance with rules prescribed by the I. C. C., railroads keep records of the annual expenditures incurred for the use of privately-owned freight and pas-



Money Paid Out by Class I Railroads for Services and Incidentals in 1937, Totalling Approximately \$348,615,000, Increased the Public's Share in 1937 Transportation to Approximately \$2,340,000,000 (Shaded Area), and Ran Total Payments by Class I Roads Up to Approximately \$4,323,000,000

Table 1. Payments to the Public not Included in Purchases of Materials and Equipment, Taxes, Interest, Dividends. — 1937 — Partially Estimated

Telephone and telegraph	\$12,750,000
Electric light and power	23,400,000
Water	12,600,000
Heat and power	2,105,000
Payments to construction contractors	41,100,000
Other contract work	26,100,000
Legal	4,200,000
Advertising	12,210,000
Tariffs	4,930,000
Rent of offices, buildings, land, etc.	15,970,000
Insurance—premiums	12,800,000
Postage	3,600,000
Grain door agencies	1,340,000
Doctors, druggists, hospitals, etc.	4,110,000
Associations, bureaus and clubs Non-railroad	12,410,000
Land and building purchases	6,550,000
Contributions	710,000
Subscriptions to periodicals, etc.	450,000
Rental of privately owned cars	93,314,000
Rent for telegraph wires, cables, clocks and construction ...	1,080,000
All other	56,886,000
Total	\$348,615,000
Per cent of materials and fuel purchased	35.1
Per cent of materials purchased less fuel	50.0
Per cent of Operating Expenses	10.7

senger train cars and for advertising and they now also report to the I. C. C. with varying degrees of completeness and accuracy their expenditures for electricity for

locomotives, but they do not as a rule summarize their expenditures for services or differentiate actual payments for services from other related expenses in reports of operating expenses and income. Complete and uniform statistics are therefore not available. However, 52 railroads have prepared itemized statements for 1937, which is 20 more than were prepared in 1936, and, with partially itemized statements from 15 other roads, this paper now estimates that the Class I railroads paid out approximately \$348,615,000 last year for services and related expenses not included under purchases of materials and equipment, taxes, interest and dividends. This total was obtained by combining the payments estimated by these individual roads to have been made for each class of expenditures and increasing this total in proportion to the purchases made in 1937 for materials and equipment.

Over Two Billion to the Public in 1937

These payments in the aggregate were equal to 35.1 per cent of the purchases of materials and fuel, 50 per cent of the purchases exclusive of fuel and equipment and 10.7 per cent of operating expenses; they were larger than the payments made last year by the Class I railroads for local, state and federal taxes. They were

larger by almost \$50,000,000 than corresponding payments estimated to have been made in 1936.

The \$348,615,000 estimated to have been paid for services and incidental items last year by the Class I railroads is compared with \$979,768,000 spent for materials and fuel and for equipment built in company shops and \$173,320,000 of new locomotives and cars ordered from equipment builders, or a total of \$1,153,088,000 of materials, fuel and equipment; it is also contrasted with \$1,983,990,000 of wages paid to employees, \$325,665,000 of taxes, \$344,368,000 of interest paid and \$167,902,000 of dividends paid.

Payments for services and for purchases of materials and equipment as reported are not precisely comparable because purchases of equipment represent the value of equipment ordered instead of the actual payments made during the period considered. When, however, the payments for incidental expenses and services are combined with the purchases of materials and equipment, the Class I railroads are found, for all practical purposes, to have paid approximately \$1,501,703,000 for *purchases* last year and when to this total are added the payments made for taxes, interest and dividends it will be seen that the payments which the Class I railroads made last year to manufacturers, contractors, the Government and enterprises other than railroads or employees amounted to approximately \$2,339,638,000.

During 1937, Class I railroads paid approximately \$13,830,000 to commercial companies for telegraph and telephone service. The payments for electric light and power totalled approximately \$23,400,000, of which \$12,030,000 was energy purchased for locomotives. Approximately \$12,600,000 of water was purchased. Payments to contractors for railway construction, exclusive of rolling stock, totalled approximately \$41,100,000 and the payments for other contract work, including trucking service, totalled \$26,100,000. The railroads also paid approximately \$12,210,000 for advertising, including approximately \$8,000,000 for newspaper and radio advertising. A total of \$15,970,000 was paid for rent of offices, buildings, land, etc., and \$12,800,000 for insurance. Aggregate payments made last year included approximately \$4,110,000 to doctors, druggists and hospitals, and \$6,550,000 for purchasing land and buildings.

The payments reported by different roads show much variation in actual expenditures, and the ratio between the payments and the corresponding expenditures for material were far from uniform. Lack of completeness in the reports as well as the size and kind of the railroads were factors in these variations. In every instance, however, substantial payments were shown to have been made for work and services which are not ordinarily included under railroad purchases and in several instances the aggregate of such expenditures

Table 2—Miscellaneous Payments to the Public by Representative Roads—1937

As Reported to *Railway Age*

Railroad	Telephone and Telegraph	Electric Light and Power	Water	Payments to Construction Contractors	Other Contract Work	Advertising	Rent of Offices, Buildings, Land, etc.	Insurance Premiums	Doctors, Hospitals, etc.	All Items Table 1	Per Cent of Material and Fuel	Per Cent of Operating Expenses
A. C. & Y.....	\$11,381	\$7,299	\$4,304			\$1,029	\$12,730	\$5,265	\$8,159	\$81,971	24	5.6
Alton	31,451	71,441	72,503	\$32,427	\$32,415	28,618	3,365	1,206	11,388	416,546	9.6	9.6
Alton & Southern..	4,682	6,228	552	14,725	550	594	17,950	1,700	663	86,778	25	9.3
Ban. & Aroos.....	8,861	26,798	6,764		24,920	10,316	13,040	10,462	4,352	430,737	29	10
Belt Ry. of Chicago	11,792	3,491	30,809	138,899	8,660		26,424	10,175	13,755	482,951		14
Burlington-R. I. ...	2,579	990	1,384		3,422	2,462	4,167	4,678	301	51,158	38	4.2
Cen. of N. J.....	58,842	92,032	282,013	646,064	209,061	75,429	65,259	125,139	25,028	2,293,348	36	9.6
C. & O.....	147,168	593,725	179,441	1,343,814	150,956	272,182	465,765	176,146	19,317	5,773,752	31	7.9
C. & E. I.....	40,064	55,583	50,606	74,552	76,232	55,400	42,299	16,384	5,074	635,966	19	51
C. & I. M.....	13,556	24,310	11,116	36,980	40,551	6,370	35,654	46,460	8,413	458,842	73	17
C. & N. W.....	878,587	Col. 1	Col. 1	587,878	1,720,315	231,858	301,754	121,800	88,581	8,907,855	36	11
C. & W. I.....	10,911	46,273	21,988	105,769	57,748		395	9,205	2,002	287,700		
C. B. & Q.....	199,315	559,299	218,893	1,348,500	1,021,566	489,076	137,735	119,724	31,345	7,781,332	25	10
C. G. W.....	50,657	76,689	36,125	55,864		6,714	57,125	26,782	27,553	1,808,149	34	13
C. M. St. P. & P..	268,568	1,523,640	228,137	665,935	596,536	331,118	229,764	108,343	72,888	8,519,678	33	9.8
C. St. P. M. & O..	34,522	98,877	Col. 2	81,588	165,386	26,124	19,260	24,251	22,190	1,382,750	29	8.7
Clinchfield	7,815	17,623	3,345		21,195	669	8,229	8,728	1,162	108,676	10	3.0
Col. & Sou.....	7,782	29,109	14,247	12,582	3,712	8,846	19,849	9,729	20,820	367,700	20	6.1
Dela. & Hud.....	35,631	99,273	79,629	265,009	170,196	20,555	79,163	210,269	30,418	1,544,925	24	7.4
Det. & Mack.....	1,861	3,900	2,752			373		2,265	1,088	38,253	20	55
D. & T. S. L.....	2,955	7,680	5,017		397		75	417	2,404	43,309	12	2.5
D. S. S. & A.....	2,965	6,200	3,069	3,555	45,512	432	657	5,210	754	114,864	23	5.3
D. W. & P.....	2,176	9,333	2,417			813	2,790		20	50,632	15	43
F. E. C.....	16,019	85,516	25,965	2,992	177,718	25,964	37,226	2,249	20,444	710,982	34	9.9
Ft. W. & D. C.....	10,429	48,898	22,986	24,402	6,391	14,043	37,722	15,421	16,241	535,004	38	11
G. M. & N.....	26,705	30,780	13,216	6,050	2,479	7,302	24,787	69,500	7,031	435,540	26	8.5
K. C. S.....	25,924	30,236	31,361	82,886	7,021	2,785	81,560	76,576	1,094	1,080,661	36	12
L. S. & I.....	2,484	568	392			1,538		16,673	859	76,851	21	5.8
L. & N.....	107,864	196,420	183,890	223,482	332,489	216,667	113,429	14,965	35,626	2,688,860	38	3.9
M. & St. L.....	21,365	34,989	25,469	88,544		3,082	39,026	9,477	8,729	335,346	17	4.7
Soo	41,957	75,618	36,503	106,549	484,813	59,137	95,405	43,368	19,817	1,739,868	30	7.9
Miss. Cen.	2,871	4,168	1,426		3,096	342	2,308	6,169	4,114	44,094	15	5.5
N. C. & St. L.....	46,719	81,016	49,857	9,411	8,159	42,902	15,796	7,766	8,159	1,000,310	31	8.0
Nev. Nor.	850	5,164				31	1,033	745	5,676	23,074	7.8	6.5
N. Y. C. & St. L..	111,169	110,850	139,634	292,671	217,328	23,590	351,841	35,884	39,370	2,619,512	32	9.2
N. Y. N. H. & H..	262,000	1,168,379	346,002	1,113,854	325,878	204,671	240,198	340,990	97,546	5,482,615	31	8.6
N. Y. O. & W.....	13,952	20,612	32,186		60,551	5,649	14,256	15,877	8,740	355,474	28	6.1
Northwestern Pac.	7,391	76,957	20,740	4,314	7,272	10,563	61,536	20,050	8,675	357,574	40	9.9
Pere Marq.	57,134	97,994	50,265	197,684	181,393	21,346	109,084	298,990	17,663	1,879,073	26	7.5
Reading	233,007	606,730	235,665	185,407	396,762	64,688	38,071	71,311	35,685	2,977,862	25	7.2
R. F. & P.....	12,843	54,412	17,700	64,875	5,613	8,709	1,300	6,995	4,563	552,997	24	8.7
Sou. Pac.	348,918	619,019	477,953	380,387	98,237	745,597	390,390	633,358	250,812	13,479,231	32	10
Spokane Intern. ...	3,026	3,436	852		1,355	167	16,310	2,293	3,838	75,589	51	12
Term. R. R. Asso. of												
St. L.	30,705	82,088	77,393	67,962		2,910	733,675	14,246		1,018,036	57	17
T. & N. O.....	147,374	147,416	107,174	234,529	298,946	112,725	99,979	347,235	5,534	2,323,747	25	6.4
Utah	3,156	2,212	5,161	11,785	2,356	85	4,123	994	1,537	41,902	13	4.3
Virginian	15,424	28,337	10,677	633,359	287,227	5,512	31,225	77,336	7,830	1,832,069	40	20
Wichita Valley	810	1,435	3,786		101	122		2,071	2,287	21,093		2.4
Western Pacific	63,368	62,377	34,416	253,429		27,272	141,064	48,394	77,572	5,137,395	74	34

Payments by other roads—Telegraph and Telephone, I. C., \$210,641. Electricity, I. C., \$1,207,930. L. V. \$71,722. B. & Me. \$108,934. Water, I. C., \$370,728. Railway Construction, A. T. & S. F., \$1,850,000. E. J. & E. \$83,502. I. C. \$363,973. L. V. \$684,939. Nor. Pac. \$378,224. Union Pacific \$251,784. Boston & Maine \$88,093. D. & R. G. W. \$606,690. and Erie \$359,672.

exceeded the purchases for materials and supplies. The combined payments of the Class I railroads are given in Table 1 and some of the payments reported by individual roads are given in Table 2.

Electricity and Rent

A third table assembles the reports made by each railroad to the I. C. C. last year for electric current and the rentals for freight train cars not owned by companies operating as common carriers. With the exception of the charges made to primary accounts for power purchased for electrified operations, the electrical figures extend to electrical energy produced by the railroads as well as electrical energy purchased and are not uniformly compiled since some roads have reported electrical energy for all uses, and other roads have included only electric current for operating trains. However, they show that 57 Class I railroads *purchased or produced* \$17,603,295 of electric current chargeable to operating expenses last year and that the Class I roads in the aggregate *purchased* \$12,030,000 of current for electrified train operation. Current purchased for electric traction totalled \$4,172,165 on the Pennsylvania, \$2,236,842 on the Long Island, \$911,107 on the New Haven, \$713,487 on the Illinois Central, \$875,673 on the

Road	Electricity Purchased and Produced †	Train Power Purchased ‡	Rent for Private Cars §
Kansas City Southern.....	.....	.....	\$579,526
Kansas, Oklahoma & Gulf....	.....	.....	102,818
Lake Super. & Ish.....	\$6,816	.....	1,432
Lehigh & Hudson River.....	4,797	.....	.....
Lehigh & New England.....	.....	.....	1,477
Lehigh Valley.....	71,722	\$71,722	814,764
Louisiana & Arkansas.....	.....	.....	169,941
Louisiana, Arkansas & Texas..	.....	.....	27,484
Louisville & Nashville.....	277,150	.....	1,062,017
Maine Central.....	.....	.....	298,670
Midland Valley.....	.....	.....	42,183
Minneapolis & St. Louis.....	.....	.....	260,053
M. St. P. & S. S. M.....	.....	.....	544,940
Mississippi Central.....	3,574	.....	19,957
Missouri & Arkansas.....	.....	.....	26,012
Missouri-Kansas-Texas.....	.....	.....	1,226,260
Missouri Pacific.....	.....	.....	4,227,968
Gulf Coast Lines.....	17,385	.....	832,101
Inter-Great Northern.....	.....	.....	552,814
Missouri-Illinois.....	.....	.....	3,545
Mobile & Ohio.....	.....	.....	399,140
Monongahela.....	2,200	2,200	7,021
Montour.....	.....	.....	560
N. C. & St. Louis.....	80,073	.....	363,761
Nevada Northern.....	5,405	.....	2,071
New York Central Sys.....	1,008,384	875,673	5,885,538
New York, Chicago & St. Louis	.....	.....	1,910,829
New York, New Haven & Hartford	2,157,422	911,107	771,482
New York Connecting.....	110,912	109,072	73,739
New York, Ontario & Western	.....	.....	73,739
Norfolk & Western.....	1,062,637	37,586	468,200
Norfolk Southern.....	7,959	200	55,232
Northern Pacific.....	164,609	.....	688,479
Northwestern Pacific.....	62,652	53,456	17,653
Pennsylvania.....	\$ 4,682,149	4,172,165	6,787,734
Long Island.....	2,336,874	2,236,842	21,109
Penna.-Reading Seashore Lines	209,560	106,921	16,548
Pere Marquette.....	.....	.....	615,367
Pittsburgh & Lake Erie.....	.....	.....	48,993
Pittsburgh & Shawmut.....	.....	.....	83
Pittsburgh & West Virginia..	.....	.....	48,200
Pittsburg, Shawmut & Northern	3,091	.....	12,666
Reading.....	493,490	294,384	427,455
R. F. & Potomac.....	14,407	14,407	197,508
Rutland.....	.....	.....	31,787
St. Louis-San Francisco Lines.	.....	.....	1,711,932
St. Louis Southwestern.....	.....	.....	1,111,813
Seaboard Air Line.....	.....	.....	1,031,505
Southern System.....	.....	.....	2,016,148
Southern Pacific—Pac. Lines..	145,558	1,200	7,252,367
Texas & New Orleans.....	.....	.....	1,663,440
Spokane International.....	.....	.....	5,529
Spokane, Portland & Seattle..	64,408	43,508	85,183
Tennessee Central.....	.....	.....	24,445
Texas & Pacific.....	.....	.....	1,528,349
Texas Mexican.....	3,018	.....	39,147
Toledo, Peoria & Western....	9,109	.....	59,328
Union Pacific.....	496	497	7,646,881
Utah.....	2,429	.....	47
Virginian.....	116,260	.....	198,604
Wabash.....	.....	.....	1,858,241
Western Maryland.....	97,971	.....	183,798
Western Pacific.....	62,377	.....	949,348
Wheeling & Lake Erie.....	.....	.....	93,080
Total.....	\$17,603,295	\$12,030,810	\$93,314,213

* Charges to operating expense.

† I. C. C. Report O. S.-E. Fuel for Locomotives. Item 404, as interpreted by each carrier. Rules do not require inclusion of station and other electricity not in bills for energy used in train operation.

‡ Charges to primary accounts exclusive of train power produced in railroad power plants.

§ Includes railroad controlled express and refrigerator car lines. Excludes passenger train cars.

§ Excludes electric current sold.

Table 3. Electrical Energy Consumed and Rent for Private Cars—
Reported by Class I Railroads to the I. C. C.—Year 1937*

Road	Electricity Purchased and Produced †	Train Power Purchased ‡	Rent for Private Cars §
Akron, Canton & Youngstown	\$6,881	.....	\$13,525
Alton.....	.....	.....	552,346
Ann Arbor.....	.....	.....	123,619
Atchison, Topeka & Santa Fe	.....	.....	3,033,155
A. & W. P. and W. of Ala....	.....	.....	35,941
Atlanta, Birmingham & Coast	.....	.....	145,704
Atlantic Coast Line.....	.....	.....	1,286,963
Char. & W. Carolina.....	.....	.....	38,751
Baltimore & Ohio.....	196,815	\$73,681	2,447,564
Staten Island Rapid Transit	222,957	187,968	.....
Bangor & Aroostook.....	.....	.....	259,574
Bessemer & Lake Erie.....	27,301	.....	6,004
Boston & Maine.....	108,934	107,538	725,254
Burlington-Rock Island.....	.....	.....	28,326
Cambria & Indiana.....	6,038	.....	14
Canadian National in New England	13,757	.....	28,672
Canadian Pacific in Vermont..	8,418	.....	20,121
Central of Georgia.....	.....	.....	215,694
Central of New Jersey.....	.....	.....	216,594
Central Vermont.....	.....	.....	68,205
Chesapeake & Ohio.....	.....	.....	1,145,952
Chicago & Eastern Illinois.....	.....	.....	324,433
Chicago & Illinois Midland....	18,825	.....	96,528
Chicago & North Western.....	.....	.....	2,097,564
Chicago, St. P. M. & O.....	.....	.....	398,496
Chicago, Burlington & Quincy	.....	.....	2,588,138
Chicago Great Western.....	.....	.....	2,265,287
Chicago, Indianapolis & Louisville	.....	.....	155,896
C. M. St. P. & P.....	995,381	1,075,917	2,933,660
Chicago, Rock Island & Pacific	.....	.....	3,549,510
Clinchfield.....	13,776	.....	58,762
Colorado & Southern.....	25,035	.....	179,617
Fort Worth & Denver City	.....	.....	211,639
Columbus & Greenville.....	3,063	.....	19,500
Delaware & Hudson.....	.....	.....	252,646
Delaware Lackawanna & Western	629,623	472,307	687,708
Denver & Rio Grande Western	97,229	.....	899,139
Denver & Salt Lake.....	36,138	.....	24,707
Detroit & Mackinac.....	3,884	.....	16,275
Detroit & Toledo Shore Line..	.....	.....	13,034
Detroit, Toledo & Ironton...	.....	.....	61,769
Duluth, Missabe & Iron Range	65,748	.....	2,706
Duluth, South Shore & Atlantic	.....	.....	25,249
Duluth, Winnipeg & Pacific..	8,602	.....	11,771
Elgin, Joliet & Eastern.....	.....	.....	145,414
Erie.....	.....	.....	2,736,482
Florida East Coast.....	.....	.....	244,288
Georgia.....	.....	.....	64,648
Georgia & Florida.....	4,286	.....	33,266
Grand Trunk Western.....	.....	.....	562,509
Great Northern.....	294,787	167,390	1,959,305
Green Bay & Western.....	6,663	.....	33,264
Gulf & Ship Island.....	5,165	.....	25,717
Gulf, Mobile & Northern.....	.....	.....	131,019
Illinois Central and Y. & M. V.	1,171,271	713,487	2,896,848
Illinois Terminal.....	345,012	301,582	76,464
International of Maine.....	2,812	.....	34,675

New York Central, and \$1,075,917 on the Chicago, Milwaukee, St. Paul & Pacific.

Rentals for privately-owned freight cars totalled \$93,314,000, and were \$7,646,881 on the Union Pacific, \$7,252,367 on the Southern Pacific, Pacific Lines, \$6,787,734 on the Pennsylvania, \$5,885,538 on the New York Central and \$4,227,968 on the Missouri Pacific.

THE VARIOUS AUSTRALIAN RAILWAY SYSTEMS have made a reduction of one day in travel time between Melbourne and Perth in new co-operative timetables which have been so arranged that only two normal business days will be spent covering the 2,100 mile journey between the two points. Sleeping car passengers may now travel direct from Melbourne to Port Pirie Junction, South Australia, without change in trains at Adelaide, as was formerly the case.

Wage Case Holds Up President's New Rail Committee

Labor members adhere to policy of non-cooperation on general program during pendency of pay-cut controversy—President expects call for Emergency Board

WASHINGTON, D. C.

ADHERING to labor's policy of non-cooperation on any general program for rehabilitation of the railroad industry during the pendency of the 15 per cent wage cut proposal, union members of President Roosevelt's new railway committee of six have caused an adjournment of conferences with their railway-executive associates "to a date later to be fixed." Presumably the latter will be after the wage case has run the normal course through the strike vote and Emergency-Board proceedings, since a statement issued after the committee's September 21 meeting attributed the postponement of deliberations to the wage controversy which, it was said, will leave the labor executives "fully occupied during most of October."

President Expects Call for Emergency Board

The President's committee was the outcome of the September 20 White House conference which had been built up in newspaper prognostications as a Presidential intervention for the purpose of settling the current controversy over the proposed pay reduction. Mr. Roosevelt expressed regret that some reporters went out on a limb in this connection as he continued to insist that his hour-and-one-half talk with three railway officers and a like number of labor-union executives had remained on broad grounds with only incidental mention of wages as one element in the general railroad problem. And he said that within a week he expected to be called upon to appoint an Emergency Board to deal with the wage case in the usual way.

Railway executives attending the White House conference were: Carl R. Gray, vice-chairman, Union Pacific; M. W. Clement, president, Pennsylvania; and E. E. Norris, president, Southern. Labor was represented by: George M. Harrison, chairman, Railway Labor Executives' Association; D. B. Robertson, president, Brotherhood of Locomotive Firemen & Enginemen; and B. M. Jewell, president, Railway Employees Department, American Federation of Labor. The President said that he had asked this group, comprised of men who presumably know the railroad business, to constitute themselves an informal committee-of-six to report back to him within a month or so with recommendations which might be expected to be adopted by Congress and accepted by the country.

The committee's action at its September 21 conference, held at the Southern's general offices in Washington, makes it unlikely that White House expectations of a report within a month or so will be realized. Prior to that time the situation seemed to be shaping up in such a way that the recommendations for a solution of the general railroad problem might be on the White House doorstep at about the same time as the expected Emergency-Board findings on the wage-cut aspect of that

broad problem. An Emergency Board has 30 days in which to make its report; and, as noted above, the President expects such a board to be at work within a week or so. The results of labor's strike vote are to be announced on September 26.

A Busy October for Labor

The statement read by Mr. Gray on behalf of the committee-of-six after the September 21 meeting was as follows: "Owing to the pendency of the wage proceedings, and as the President has indicated that he will appoint a fact-finding commission next week, the time of the labor executives will be so fully occupied during most of October that it was decided the next meeting would be postponed to a date later to be fixed. There was a general discussion at today's meeting of an approach and the methods which will be followed in pursuing the study the President has asked us to undertake." Neither the railway executives nor the union leaders would elaborate on the foregoing. It was learned, however, that the committee took no action with respect to reporting the decision to the President, although some informal report may be made by one of the members.

This committee-of-six is the second committee to go to work on the railroad problem within a week. As noted elsewhere in this issue, another study group emerged from last week's Transportation Conference, sponsored by the Chamber of Commerce of the United States.

Mr. Roosevelt discussed his railway meeting at his Tuesday-afternoon press conference, held immediately afterward; and while the railway and labor executives were still conferring among themselves in the Cabinet room. Upon emerging from this Cabinet-room meeting none of the committeemen would discuss their initial deliberations. It is understood, however, that Mr. Harrison took the position at the White House that it would be difficult for labor to co-operate on a general program with one hand while fighting the wage battle with the other. Later came reports that the labor members had told the railway executives that they could not co-operate on the President's assignment unless the wage-reduction proposal were abandoned; and that the railroad officers had stated that they had no authority to make an immediate reply, but that they would report back at the meeting scheduled for the following day—the above-mentioned September 21 session.

Rail Executives Exclude Wage Case

In the latter connection it was learned from sources close to the railway members that their disposition to exclude discussion of the wage case was such that they

would not even seek authority to deal with the matter which was already in the hand of another management committee armed with power of attorney from all the carriers. Also, it was understood to be the view of the railway members that the committee-of-six should encounter no difficulties in proceeding to consider other matters while the wage case ran its normal course; and that if labor adopted a no-cooperation-without-abandonment-of-the-wage-cut attitude, it would be up to the union members to report back to the President on that basis. In any event the September 21 decision for an indefinite adjournment of the conference was the outcome.

In further discussion of the White House meeting at his September 20 press conference, Mr. Roosevelt said that despite the general assumption that the wage controversy was considered, such was not the case—the only mention of wages was the President's own mention of them as comprising but one element in the broader problem of getting a sound system of railroads and the larger problem of a sound system of co-ordinated transportation. Mr. Roosevelt next referred to his railway message to the last Congress, recalling how he had expressed the hope that the Congress would take some action. He still hopes it will, although he thought meanwhile that the labor and railway executives could be of help by bringing in a sufficiently broad plan which might be worthwhile for Congress to consider, study and act upon. It was Mr. Roosevelt's view that previous moves to solve the railroad problem have got nowhere.

Asked where his committee's terms of reference left the wage controversy, Mr. Roosevelt reiterated his previous statement that the discussions did not include the wage case, which, he added, would be taken up in the regular way. The President still has the same ideas with respect to the necessity for action as he expressed in his message to Congress, although he pointed out that he did not in that message make his own the accompanying report of his previous railway committee, consisting of Interstate Commerce Commission Chairman Splawn and Commissioners Eastman and Mahaffie.

Mediation Board Reports to Roosevelt

It is understood that the genesis of this week's White House meeting was the request of railway labor for a conference with the President following the breakdown of mediation in the wage case. The President's trip to Rochester, Minn., where his son, James, recently underwent an operation, caused a postponement of original plans for such a meeting with labor, and meanwhile members of the National Mediation Board called at the White House on September 16 to inform the President with respect to the wage case and report the failure of their mediatory efforts. With respect to this week's White House meeting out of which came the committee-of-six it was first reported that labor representatives were going to see the President on September 20 and a management group within a day or two thereafter. On the morning of September 20, however, the White House announced the list of conferees, revealing the line-up for a joint meeting; and also the fact that only the general railroad problem, without reference to the wage case, would be discussed.

Meanwhile the labor leaders are publicizing their interpretations of a compilation made by the Railroad Retirement Board showing a figure of \$1,115 for the average annual earnings of railroad workers. "Roads Greatly Exaggerate Workers' Pay, Pension Board Reports," says an eight-column heading in the latest issue of "Labor" which goes on to call the Retirement Board Study "the

most important document to come out of the efforts of the railroads to enforce a 15 per cent wage reduction." Actually, the Retirement Board study, which was made with the aid of a WPA grant of \$75,000, was a tabulation (without interpretative text) of data gleaned from reports to the Board, which reports are made for all individuals paid any wages (up to \$300 a month) for however short a time by any employer subject to the Railroad Retirement Act.

The tabulation was discussed in the recent wage-cut negotiations, where, "Labor" says, "It literally blasted the principal arguments of the carriers and exploded in the most devastating fashion the myth of high railroad wages." The recently-published railroad pamphlet entitled "Railroads and Railroad Wages, 1938" gives a figure of \$33.29 for 1937 weekly average earnings of employees, excluding executives, officials and staff assistants, the figure being based on Interstate Commerce Commission reports of employees in service at the middle of each month. It is evidently this \$33.29 put on an annual basis which gives a management figure of \$1,736 used by the labor leaders for comparison with the Retirement Board's \$1,115.

Far from being "startled" at the "revelations" however, it is understood that the railroads were rather surprised that the Retirement Board compilation did not show a lower annual average. As indicated above, it was based on the 1,740,799 employees who received some pay from Class I railroads in 1937, i.e., the number of different names appearing on the payroll, however long they worked. It included, for example, 368,781 who got less than \$100 each for the year; and of that 368,781, a group of 109,935 each got less than \$10 for the year. Over 231,500 had work within only one month of the year. Eighty-four per cent of the aggregate payroll used in the Retirement Board tabulation went to the 917,900 employees who had some work in each of the 12 months; and the average 1937 wage received by that group, which the carriers regard as really attached to the industry, was \$1,785. Furthermore, although it is a relatively minor factor, it is pointed out that the amount an individual earns over \$300 a month does not enter the wages reported to the Retirement Board.

The Retirement Board took the position that it did not, itself, care to release the tabulation to the press in view of the fact that it comprised only part of a study yet incomplete. It is understood, however, that copies were furnished to the Association of American Railroads and to the Interstate Commerce Commission as well as to the labor organizations.

* * *



Photo by C. Parker

B. & M. Locomotive No. 3622 Hauling 4-car Local at Somerville, Mass.



Part of the Fleet of Modern Trucks Operated by the Texas & Pacific

T. & P. Intensifies Rail-Highway Co-Ordination

Louisiana truck routes supply one of the most complete and flexible services in the country

THE Texas & Pacific operates one of the most complete supplementary highway services in the country. This road was a pioneer in rail-highway co-ordination but its system has experienced its greatest growth, both from a traffic and service standpoint, within the last few years. A general description of the system-wide operations was published in the *Railway Age* of October 23, 1937.

The Texas & Pacific has few branches in Texas, the problem there having been largely one of providing local stations on the main line with service from certain concentration and distribution points. The Louisiana operations are of a different character by reason of the numerous branches in that state, and the rail-highway co-ordination there has been worked out in such an ingenious fashion that, by giving excellent service to local stations and branch line points, it has been marked by increased merchandise tonnage.

The Louisiana Co-Ordination

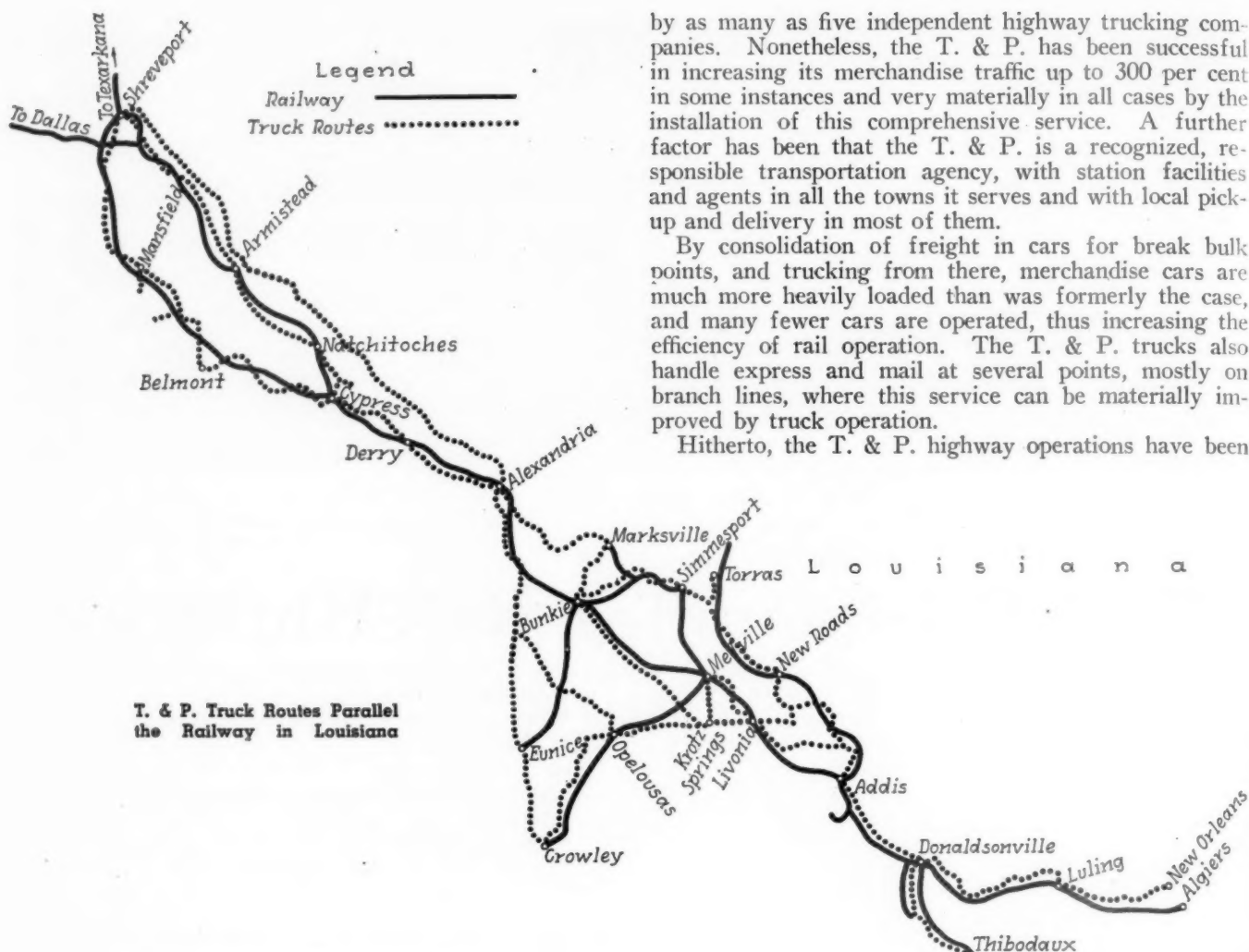
The T. & P. operates 715 miles of railway in Louisiana, of which 322 miles comprise the main line between Shreveport and New Orleans, and 293 miles are branch lines, ranging in length from the Marksville branch, 9 miles long, to the Ferriday branch, 110 miles. The truck system comprises more than twice as much mileage, 1,531 loaded truck route miles being operated daily in Louisiana by the T. & P. Transport Company.

The truck routes serving the branch lines center principally about Addis, La., at which point a modern shop and garage for handling T. & P. equipment was put in service on August 1, 1937. One truck route covers the Ferriday branch as far north as Torras. This branch

had to depend on train service three times a week until this truck route was established, and merchants in the towns along the west bank of the Mississippi served by this branch often had to wait days for l. c. l. shipments to reach them from New Orleans, Shreveport, Alexandria or other jobbing points. The trucks serving these towns now leave Addis at 2 A. M., and distribute merchandise as far as Torras before 6:30 A. M. On days when the train is operated, this means a saving of 8 hr. 15 min., at Lettsworth, for example, as compared with train service, and, on alternate days, when there is no train service, shipments are delivered 32 hr. ahead of train service at Lettsworth. Time savings to other points on the Ferriday branch are in proportion.

Another important branch line truck service is that between Addis and Thibodaux. This line serves main line local stations as far as Donaldsonville, then stations on two paralleling branches to Napoleonville, and another branch to Thibodaux, saving from 3 hrs. to 12 hrs. 40 min. at various stations enroute as compared to the service available by train.

Four separate routes are operated between Addis and Alexandria to serve the various branches north and south of the main line on both east and westbound merchandise traffic. These routes include the Crowley and Eunice branches to the south and the Marksville and Simmesport branches to the north. These truck routes include a number of cross-country runs from the end of one branch to the end of another, through intermediate towns not on the railway, but only such towns as are actually on the T. & P. are included in the truck service. There are also two additional lines in the territory between Addis and Alexandria to serve other portions of the main and branch lines. These two routes both operate



between Addis and Cheneyville, but use different highways and serve different towns. The savings in time on these routes by truck instead of train delivery vary from a few hours to as much as 35 hours.

Shreveport-Alexandria Service

Between Shreveport and Alexandria, the T. & P. has two roughly parallel rail lines for most of the distance and several truck routes. One of these truck routes operates through, serving the stations along the secondary main line, saving from 20 to 30 hours in time all along the line. Another truck route is operated between Shreveport and Cypress along the main line, with similar important improvements in delivery time.

A third run is also operated between Shreveport and Alexandria in high-speed, non-stop service on a twice daily basis along a highway that does not traverse T. & P. territory. These runs make no intermediate stops and handle only the merchandise moving between the important jobbing centers at the termini of the runs. An additional truck route in this territory is that between Shreveport and Natchitoches, another important town to which a sufficient volume of freight moves to justify the operation of a truck route for local merchandise only.

By means of this comprehensive service, the T. & P. is enabled to give overnight delivery from all important shipping points on its line to all other stations on its railway within the state of Louisiana. The territory served was highly competitive when the T. & P. began its truck operations, a number of the towns being served

by as many as five independent highway trucking companies. Nonetheless, the T. & P. has been successful in increasing its merchandise traffic up to 300 per cent in some instances and very materially in all cases by the installation of this comprehensive service. A further factor has been that the T. & P. is a recognized, responsible transportation agency, with station facilities and agents in all the towns it serves and with local pick-up and delivery in most of them.

By consolidation of freight in cars for break bulk points, and trucking from there, merchandise cars are much more heavily loaded than was formerly the case, and many fewer cars are operated, thus increasing the efficiency of rail operation. The T. & P. trucks also handle express and mail at several points, mostly on branch lines, where this service can be materially improved by truck operation.

Hitherto, the T. & P. highway operations have been

confined to intrastate business within the borders of Texas and Louisiana. The Interstate Commerce Commission has just granted the company the right to operate highway service interstate between Dallas, Texas, and Shreveport, La., which means a continuous rail-highway co-ordination from New Orleans, La., to Pecos, Texas.

* * *



Photo by C. Parker
 New Haven Train, Bound for New York, Passing Through Forest Hills, Mass.

NEWS

Walter Still After Railroad Car Lines

Would have I. C. C. investigate their refrigerator-car mileage rates

Luther M. Walter, one of the trustees of the Chicago Great Western, has asked the Interstate Commerce Commission to launch an investigation of mileage payments for refrigerator cars owned by railroads and railroad-controlled car companies. Asserting that such payments "constitute a severe drain upon the revenues" of the C. G. W. and other roads similarly situated, Mr. Walter would have the probe set for hearing co-incidental with any proceeding resulting from the recent petition filed jointly by himself and his co-trustee—Patrick H. Joyce—for a reopening of No. 15234 which was concerned with divisions of joint rates in Western and Mountain-Pacific territories.

As pointed out in the *Railway Age* of September 3, page 357, this latter petition was a follow-through on previous agitations of the C. G. W. for more liberal divisions of through transcontinental freight rates; that matter as well as the refrigerator-car rentals had previously come to the fore in the Ex Parte 123 case and in Senator Wheeler's investigation of railway finances.

Mr. Walter's petition noted at the outset that a reopening of No. 15234 will bring before the commission only the division of the revenue, whereas an important element in the whole picture is the large proportion of transcontinental traffic which consists of fresh fruits and green vegetables moving eastward in refrigerator cars. Among the owners of these refrigerator cars, the petition goes on, are two railroads—the Atchison, Topeka & Santa Fe and the Northern Pacific—and four railroad-owned car companies—the Pacific Fruit Express, Western Fruit Express, the Burlington Refrigerator Express Company and Fruit Growers Express.

The using railroads, Mr. Walter explained, pay two cents a car mile for both loaded and empty movements, the burden of the empty movement being borne by the roads which get the traffic. He continues to assert that on July 1, 1935, when the mileage rate on shipper-owned refrigerator cars was cut from two cents to 1.75 cents, "it was definitely expected" that the owning railroads would follow suit.

Mr. Walter next gives a brief review of an exhibit which he offered in Ex Parte 123, showing that 45 carloads of fruits and vegetables left Council Bluffs, Iowa, on August 27, 1937, for Chicago and Eastern markets. The C. G. W.'s gross revenue on this traffic was \$2,549.68, out of which it absorbed \$281 in switching charges at Chicago.

Of the remaining \$2,268.68, a total of \$907.65 or 40 per cent was paid in rentals for refrigerator cars of other railroads or railroad-owned car companies.

It is Mr. Walter's observation that while these rentals are a burden on the paying roads the operations of the Pacific Fruit Express have been "highly successful," and those of other railroad-owned car companies "all appear to show a profit." Of the 12,000,000 refrigerator car miles, loaded and empty, used by the C. G. W. in 1937, a total of 8,750,000 was made by P. F. E. cars. In view of the set-up which he describes, the petitioner thinks it of "great importance" that rentals as well as divisions should be "reasonable." Thus along with the investigation of the latter, he says, "it is necessary there likewise be a thorough and complete investigation into the amounts paid for refrigerator cars owned directly by railroads or through railroad-controlled car companies."

Such a probe, Mr. Walter points out, would embrace all Class I roads handling perishables; and while divisions and rentals are parallel and interrelated, he thinks they are separate and distinct to an extent that would make impractical investigation of both in the same proceeding. Thus his suggestion for parallel hearings.

Meanwhile, the transcontinental lines and their connections west of the Missouri river and the Minnesota Transfer have filed with the commission a reply to the Great Western trustees' petition asking for a reopening of No. 15234. The transcontinental carriers, in this reply to Mr. Walter and Mr. Joyce, say that all their officers and employees are now needed on the job to handle current problems and that they cannot afford to detach them from their work to undertake a divisions inquiry. Moreover, they add that they cannot afford the expense of such a hearing. If the Great Western needs additional revenue, they suggest it should look to a change in its divisions which have not already been reviewed and adjudicated by the commission. Also, the statement takes the position that divisions should be decided on normal traffic conditions. In view of the fact that these are abnormal times so far as traffic is concerned, the carriers believe that no investigation of divisions should be undertaken at this time.

Rail Conference to Be Continued

Meeting appoints a continuing committee to convene on September 30

The national transportation conference, sponsored by the Chamber of Commerce of the United States, concluded its initial sessions on September 15 by appointing a committee to consider and formulate plans for continuing the conference but without reaching any definite conclusion on a railroad legislative program. Just as the delegates were leaving Washington, George M. Harrison, chairman of the Railway Labor Executives' Association issued a statement in which he sharply criticized the conference for failing to include a representative of railroad labor among those invited to the conference.

Acting as one of the spokesmen for the conference, Harry A. Wheeler, president of the Railway Business Association, called the meeting an "exceedingly constructive one" and went on to point out that, in his opinion, it was a good thing that the conference did not try to reach any definite conclusions at this time.

Before adjourning subject to the call of the chairman, the conference appointed a special committee of 17 members whose duty it will be to draft a complete program for the consideration of the conference at a meeting to be held later this Fall. The committee will hold its first meeting in Washington on September 30 and will at that time decide on the date for the meeting of the conference. The committee can draft a definite legislative program if it should see fit to do so, and it may also invite other interests to submit suggestions. It was also empowered to add to its own membership and to obtain technical advice and help if it so desires. All members of the committee will be called on for suggestions for a program before the meeting on September 30.

Spokesmen for the conference pointed out at a press conference that there was one point in the tentative program of the Association of American Railroads which may be opposed by shipping interests. This was the suggestion for changing the rule of rate making. It was disclosed that shippers attending the conference demanded a more specific recommendation and information concerning what the A. A. R. would like to see incorporated into the law. The Association of American Railroads has promised to submit more specific

information to the committee at an early date.

The membership of the Advisory Committee of the Transportation Conference of 1938, is as follows: Arthur M. Hill, chairman, president of the Atlantic Greyhound Corporation; C. J. Abbott, director of the American Livestock Association; Sidney Anderson, vice-president and secretary of General Mills, Inc.; Julius H. Barnes, president of the Erie & St. Lawrence Corporation; Samuel T. Bledsoe, president of the Atchison, Topeka & Santa Fe; Leslie Craven of the legal firm of Miller, Owen, Otis & Bailly, representing the American Bar Association; W. H. Day, chairman of the executive committee, National Industrial Traffic League; Charles Donley, president of the National Association of Advisory Boards; D. C. Fenner, vice-president of the Mack-International Truck Corporation; J. A. Gordon, president of the Transportation Association of America; J. M. Hood, president of the American Short Line Railroad Association; George H. Houston; F. N. Oliver, counsel for the National Association of Mutual Savings Banks; Carlton Putnam, president of the Chicago & Southern Air Lines; Ted V. Rogers, president of the American Trucking Associations, Inc.; Frank J. Taylor, president of the American Merchant Marine Institute, Inc.; and Harry A. Wheeler, president of the Railway Business Association.

Mr. Harrison, in his statement criticizing the conference, declared that "The Railway Labor Executives' Association considers it stupidly presumptuous for the Association of American Railroads to seek legislation sponsored by it, without granting representation to either the million or more employees or the public. Such procedure however, is evidenced according to press reports of a conference held in Washington, D. C., under the auspices of the Chamber of Commerce of the United States.

"It is apparent that the so-called conference was called for the purpose of propaganda. That it was convened during the negotiations over the carriers' 15 per cent wage reduction is both significant and suspicious. Its theme song was that money is more important than men."

"Spokesmen for the gathering insisted," continued Mr. Harrison, "that the wage controversy had no place in the deliberations, but that statement should be taken with a grain of salt. It is belied by the emphasis placed on the proposal to emasculate the Railway Labor Act, which has kept peace in the industry. It goes without saying that railroad labor will vigorously resist every effort to destroy this enlightened legislation.

"Practically every proposal made by the conference had previously been submitted to the Standard Railroad Labor Organizations and flatly rejected by their spokesmen. Our position remains unchanged. We regard the suggested changes as indefensible and know from experience that they would increase the railroads' problems. That these proposals have been made is not surprising, in view of the fact that nobody was represented at the conference except the financial interests which have

brought the carriers to their present sorry plight.

"It will be well for the public to carefully consider the effect of the demand that the carriers be given a free hand in rate-making and in effecting consolidations. The merger scheme, of course, threatens the jobs of tens of thousands of railroad workers. But, equally important, it strikes at the prosperity of scores of communities which would be deprived of railroad service if management is permitted to work its will without restraint.

"The Railroad Labor Organizations on many occasions have offered to cooperate with the carriers in working out a reasonable solution of admitted problems," concluded the labor spokesman. "We regret that these offers were not accepted. We are still ready and anxious to assist the carriers along legitimate lines, but we will fight to the limit of our ability any scheme that threatens jobs without adequate provision for the men who will be displaced, or which places the public at the mercy of financial interests which, as I observed at the beginning, regard money as more important than the welfare of human beings."

The executive committee of the board of directors of the Transportation Association of America announced that at a regular meeting held on September 16, it "considered the future programs and policy of the Association and decided to vigorously proceed with the activities of the Association directed toward the adoption by Congress of a national transportation program and to co-operate with all agencies interested in the adoption of such a program."

New England Roads Directed to Disregard Routings

Because of the emergency resulting from flood conditions in New England, the Interstate Commerce Commission has issued Service Order No. 64, directing railroads in that section to disregard routing instructions and car service rules in the interest of relieving congestion by sending traffic over the most available open routes.

Lake Coal Demurrage

The Interstate Commerce Commission has set October 5 as the date for oral argument at Washington, D. C., in No. 27266, Lake Coal Demurrage. The recommended findings of the proposed report in this case (which was subsequently reopened for further hearings) were summarized in the *Railway Age* of November 6, 1937, page 657.

Stoker Order Again Postponed

The Interstate Commerce Commission has postponed from October 1 to November 15 the effective date of its order in the automatic stoker case. The action came "upon further consideration of the record . . . and to comply with the terms of the stipulation heretofore entered into by all parties to the court proceeding relating to the order . . . now pending in the United States District Court for the Northern District of Ohio, and to afford opportunity for proper consideration of said case by the court." For similar reasons the effective date of the order was

previously postponed from July 1 to October 1.

The commission's report in this case (No. 24049, A. Johnston, Grand Chief Engineer of the Brotherhood of Locomotive Engineers, et al. v. The Atchison, Topeka & Santa Fe Railway Company, et al.) was reviewed in the *Railway Age* of January 8, page 115.

Would Approve Santa Fe Truck Operations

Joint Board No. 52 of the Interstate Commerce Commission, composed of John E. McCullough of Kansas, in a proposed report to the commission, has recommended that the Santa Fe Trail Transportation Company, a highway affiliate of the Atchison, Topeka & Santa Fe, be authorized to operate as a common carrier by motor vehicle in interstate and foreign commerce of general commodities between Moline, Kans. and Chautauqua, and between Emporia, Kans. and Pittsburg.

West Shore Ferry Fares

Examiner Charles M. Bardwell has recommended in a proposed report that the Interstate Commerce Commission deny the West Shore's application for authority to increase its local ferry passenger fares between Weehawken, N. J., and West Forty-second street, New York, from four cents to six cents and between Weehawken and Cortlandt street, New York, from six cents to 10 cents—without prejudice to the establishment of a five-cent fare on the West Forty-second street line and an eight-cent fare on the Cortlandt street line.

Club Meetings

The Indianapolis Car Inspection Association will hold its next meeting on October 3 at the Severin hotel, Indianapolis, Ind., at 7 p. m.

The Toronto Railway Club will hold its next meeting on September 26 at 7:45 p. m., in the Royal York hotel, Toronto, Ont. John Eaton, assistant to general purchasing agent, Canadian Pacific, Montreal, Que., and S. D. Sneddon, general storekeeper, Canadian National, Toronto, Ont., will be the speakers at the meeting which has been designated as "Purchases and Stores Night."

Panama R. R. to Launch Three New Ships

Secretary of War Woodring has announced that the launching of the first of the three cargo-passenger steamers now under construction for the Panama Railroad Steamship Line, at the Fore River plant of the Bethlehem Shipbuilding Corporation at Quincy, Mass., will take place at noon, Saturday, September 24. The launching of the two other sister ships will follow at approximately three month intervals. When completed the new fleet will replace the company's present four vessels, two of which were built in 1902, and the others in 1919. The vessels operate between New York City and the Canal Zone via Port-au-Prince, Haiti. Each of the three ships will cost over \$4,000,000 and is being paid for from reserves specifically accumulated for this purpose by the company.

Would Allow Southern To Cancel Commuter Fares

Examiner Frank C. Weems, of the Interstate Commerce Commission, in a proposed report to the commission, has recommended that the commission find justified the proposed cancellation of commutation passenger fares between Washington, D. C., and stations on the line of the Southern in the State of Virginia. The Examiner points out that the passenger traffic manager of the Southern, testifying at the hearing, stated that with the increase in improved highways, bus schedules and the use of private automobiles, local traffic over the Southern has practically vanished, and with it, commuter travel.

Commission Vacates Paducah Service Order

The Interstate Commerce Commission, Division 3, has vacated service order No. 63 which authorized the Gulf, Mobile & Northern to divert to open routes through Jackson, Tenn., traffic which this road would have handled through the Paducah gateway at rates applicable through the Paducah gateway. The case arose when the G. M. & N. was unwilling to accept the modification of a contract which allowed it to operate its trains over the tracks of the Illinois Central between Bemis, Tenn. and Paducah, Ky. The order was vacated because of the fact that the new routing is now included in published tariffs.

12 Dead, Many Injured, in Southern Pacific Wreck

Early on the morning of September 20, the westbound Argonaut, Southern Pacific train enroute from New Orleans, crashed head on into the eastbound Californian, enroute to Chicago, which was waiting on a siding at Tortuga, Cal. The cause of the accident was reported to be the throwing of a switch by a confused brakeman, of 18 years' experience, directly in front of the Argonaut, causing it to take the siding at high speed and crash into the waiting Californian. Twelve persons were killed and approximately 100 were injured. All of the passengers who were killed were in a coach of the Californian which was telescoped by the impact which injured many others.

August Operating Revenues Down 13 Per Cent from Last Year

Preliminary reports from 92 Class I railroads, representing 81.5 per cent of total operating revenues, made public today by the Association of American Railroads, show that those roads, in August, had estimated operating revenues amounting to \$254,953,136 compared with \$293,019,119 in the same month of 1937 and \$381,834,632 in the same month of 1930. The August gross was 13 per cent below that of August, 1937, and 33.2 per cent below August, 1930.

Freight revenues of the 92 roads in August, amounted to \$203,722,893 compared with \$234,167,863 in August, 1937, and \$291,716,095 in August, 1930—13 per

cent below the former, and 30.2 per cent below the same month in 1930. Passenger revenues totaled \$30,102,258 compared with \$34,555,238 in August, 1937, and \$56,833,248 in August, 1930—12.9 per cent below the former, and 47 per cent below 1930.

Joint Board Approves B. & M. Bus Operations

Joint Board No. 189 of the Interstate Commerce Commission, composed of Frank E. Riley of Massachusetts, Winslow E. Melvin of New Hampshire and Stephen S. Cushing of Vermont, in a proposed report to the commission, has recommended that it authorize the Boston & Maine Transportation Company, highway affiliate of the Boston & Maine, to continue its operation as a common carrier by motor vehicle of passengers and their baggage, and of express, mail, and newspapers between points in New Hampshire, Massachusetts, and Vermont, over specified routes. The Joint Board would also authorize the company to conduct the same type of operations between Durham, N. H. and Exeter, including intermediate points.

A. T. A. Asks Reopening of Motor Hours-of-Service Case

American Trucking Associations, Inc., has asked the Interstate Commerce Commission to stay its order and institute further proceedings in the motor carrier hours-of-service case—Ex Parte MC-2. The A. T. A. would have the commission treat its report and order, effective October 1, as a "proposed report and order" to the end that further hearings be held "looking toward the promulgation of such different and additional rules and regulations as will be found desirable and necessary."

A. T. A. filed its petition after a September 13 hearing at which its board of directors received presentations from operators affected by the new regulations. Following the session the directors expressed their views informally to Commissioner Eastman, Examiner Snow, author of the proposed report in the case, and officers of the Bureau of Motor Carriers.

Rock Island "Rockets" Have Shown Good Earnings

At a celebration of the first anniversary of the installation of Rocket service on the Chicago, Rock Island & Pacific, on September 19, E. M. Durham, Jr., chief executive officer, stated that in the first seven months of 1938, the five Rocket streamlined trains operated by this road had shown net earnings of \$480,000, equivalent to a return of approximately 46 per cent on the original investment of \$1,800,000 for the equipment. In that period the trains traveled 631,632 miles and carried 219,181 revenue passengers. While all of the Rockets are showing substantial earnings, the best record was made by the Chicago to Des Moines, Iowa, streamliner, which earned a net of \$176,000 in the first seven months of this year, equivalent to a return of 75 per cent on the money invested in that train. Final August earnings of these trains have not been completed, but gross for the month totaled \$149,998, equal to \$1.54 a train mile,

better than any one of the previous seven months of this year, which have averaged a gross of \$1.38 a train mile.

P. R. R. Schedule Changes

The Pennsylvania has announced that with change of time effective September 25, the running time of several important trains will be shortened, in addition to the routine change of time to conform to the return to standard time. The St. Louisan will leave New York at 6:40 p. m., 20 minutes later than at present, while arrivals at western terminals will remain unchanged. The westbound Spirit of St. Louis will leave at 5:10 p. m., 5 minutes earlier than at present. The Manhattan Limited will leave at 6:50 p. m., 15 minutes later, arriving in Chicago at 12:30 p. m., as now. The Montrealer, which runs via the Hellgate bridge route, will leave 10 minutes later than at present and arrive in Montreal, Que., at the same time. Southbound, the Washingtonian will leave Montreal at 9:15 p. m., 35 minutes later than at present, reaching New York 16 minutes later. The running time of a number of other through trains will also be shortened, including the Pennsylvania Limited and the Cincinnati Limited.

N. Y. Port Authority Protests Lowering of Water Sugar Rates

A protest against the proposed lowering of steamship rates on sugar shipments from California points to New Orleans, La., has been made by the Port of New York Authority to the United States Maritime Commission. The protest statement declares that "to permit a radical cut in sugar rates for water transportation without investigation would be unfair to the railroads and would undo what the Interstate Commerce Commission has done for the railroads in this matter. It is our understanding that a plan has been worked out under which the Maritime Commission and the Interstate Commerce Commission will co-operate in matters of this kind in order to avoid, as far as possible, inconsistent conclusions and unfairness to the public."

In explanation, the Authority points out that the Interstate Commerce Commission recently authorized the carriers to increase rates on sugar, including those on trans-continental shipments.

N. Y. Truckmen's Strike Ties Up Local Shipments

Three local truck drivers' unions in New York City have rejected offers of a four-day truce in a city-wide "outlaw" drivers' strike which first raised its head on Thursday, September 15. The two employers' organizations, the Merchant Truckmen's Bureau and the Highway Transport Association, had proposed a truce during a period of negotiations to concern new employment contracts. Late on September 20, Acting Mayor Newbold Morris issued an ultimatum to union and operator representatives to end the truck tie-up within 24 hours. The strikers demand a new agreement providing a 40-hour, five-day week, with no reduction in the base pay of \$56.50, and one week vacation annually.

It is yet questionable whether the pile-up of undelivered shipments in railroad freight houses will become serious enough to warrant embargo measures; faced by overloaded pier space, several steamship companies are considering this course, however.

Freight Car Loading

Loading of revenue freight for the week ended September 10 which included the Labor Day holiday totaled 568,887 cars, a decrease of 79,152 cars or 12.2 per cent below the preceding week, a decrease of 139,315 cars or 19.7 per cent below the corresponding holiday week in 1937 and a decrease of 287,762 cars or 33.6 per cent below the same holiday week in 1930. All commodity classifications except live stock showed decreases under last week and under last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading			
For Week Ended Saturday, September 10			
Districts	1938	1937	1936
Eastern	109,674	131,401	135,415
Allegheny	102,270	138,504	140,453
Pocahontas	44,215	48,760	51,730
Southern	89,277	97,816	100,199
Northwestern ..	79,432	128,756	110,797
Central Western.	95,221	108,155	102,784
Southwestern ...	48,798	54,810	58,769
Total Western			
Districts	223,451	291,721	272,350
Total All Roads.	568,887	708,202	700,147
Commodities			
Grain and Grain Products	30,526	31,700	27,718
Live Stock	14,667	14,199	17,704
Coal	99,863	118,355	121,195
Coke	4,950	9,348	9,007
Forest Products.	26,634	33,656	31,878
Ore	24,995	71,586	51,779
Merchandise l.c.l.	134,451	147,031	149,173
Miscellaneous ..	232,801	282,327	291,693
September 10 ...	568,887	708,202	700,147
September 3 ...	648,039	801,539	765,131
August 27 ...	620,511	783,476	754,097
August 20 ...	597,918	777,150	735,476
August 13 ...	589,561	773,782	736,578

Cumulative Total,
36 Weeks ...20,112,166 26,642,409 24,042,607

In Canada.—Car loadings for the week ended September 10 totaled 51,820 cars, as against 54,849 last year and 57,498 for the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
September 10, 1938....	51,820	17,536
September 3, 1938....	57,498	18,836
August 27, 1938.....	53,242	17,713
September 11, 1937....	54,849	20,299

Cumulative Totals for Canada:

September 10, 1938....	1,605,238	725,853
September 11, 1937....	1,762,005	959,744
September 5, 1936....	1,616,617	827,095

Railroads Forced to Curtail Services in Eastern Storm

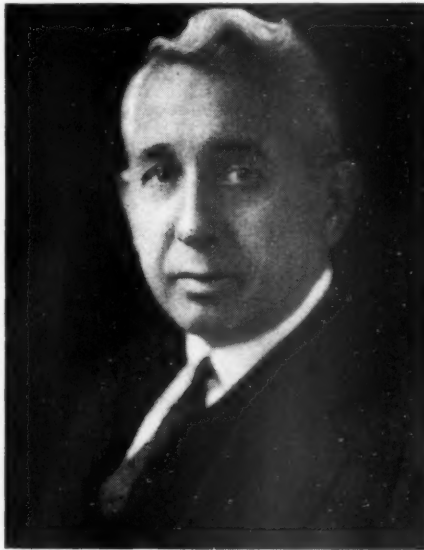
Roads serving the northeastern coastal area were forced to abandon operation of numberless lines when a gale of almost hurricane proportions buffeted the north Atlantic Coast and almost all of interior New England, on September 21. High winds lashed tidal waters to unprecedented heights, inundating rights-of-way and terminal properties. At the same time, an unusually heavy four-day rain-fall which preceded and accompanied the wind-storm, inflated every creek and river to

flood-height, which wiped out bridges, put trestles under water and filled earth-cuts with muck and debris.

As far as can be known at writing, New England and the eastern end of Long Island, N. Y., suffered the most damage in the catastrophe. The New York, New Haven & Hartford's shore line was especially vulnerable to the elements, and service was regular only between New York and New Haven. Service has been completely stopped in the vicinity of Providence, R. I. It is reported in news dispatches that the Boston & Maine virtually suspended operation in wide areas. Carriers having ferry connections with New York City were hampered by high tides which flooded terminals and made boat service impossible. Lines throughout the seaboard east were obstructed by fallen trees. Communication lines were also in confusion, and at one point on the New Haven, telegraph lines were torn down by a station roof blown from its customary resting-place.

C. J. Graham Elected P. & W. Va. Head

Charles J. Graham has been elected president of the Pittsburgh & West Virginia, with headquarters at Pittsburgh, Pa., effective September 15, to fill the vacancy caused by the death last June of Frank E. Taplin, of Cleveland. The directors have also accepted the resignation of H. W. Nethken as vice-president in charge of



Charles J. Graham

traffic. No successor to Mr. Nethken has as yet been named.

Mr. Graham was born on March 13, 1878, at Pittsburgh, and entered the bolt and nut business on January 6, 1896, with John Charles & Co. When the latter company became the Graham Nut Company, Mr. Graham became a partner, and when it was incorporated in 1904, he became vice-president. Mr. Graham retained his vice-presidency in 1922, when the company's name was changed to Graham Bolt & Nut Co., and in 1929 when the company was absorbed by the Pittsburgh Screw & Bolt Corporation. From 1924 to 1931 he was president of the Bolt, Nut & Rivet

Manufacturers' Association. He became associated with the Pressed Steel Car Company, Inc., in 1933, during the period of reorganization, and upon completion of reorganization in 1936 became a vice-president, which position he held until his election to the presidency of the Pittsburgh & West Virginia.

June Accident Statistics

The Interstate Commerce Commission's completed statistics of steam railway accidents for the month of June 1938 now in preparation for the printer, will show:

Item	Month of June		6 months ended with June	
	1938	1937	1938	1937
Number of train accidents	395	611	2,699	4,544
Number of casualties in train, train-service and non-train accidents:				
Trespassers:				
Killed	234	284	1,027	1,193
Injured	266	293	1,149	1,222
Passengers on trains:				
(a) In train accidents*:				
Killed ...	41	...	44	...
Injured ..	77	25	240	246
(b) In train-service accidents:				
Killed ...	...	...	10	4
Injured ..	133	140	925	876
Travelers not on trains:				
Killed .....	...	...	2	8
Injured	53	62	375	393
Employees on duty:				
Killed	32	46	234	354
Injured	1,246	2,073	7,594	12,055
All other nontrespassers†:				
Killed	125	125	744	942
Injured	434	397	2,727	3,429
Total—All classes of persons:				
Killed	432	455	2,061	2,501
Injured	2,209	2,990	13,010	18,221

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than \$150 to railway property.

† Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Number of accidents.	242	246	1,651	2,168
Persons:				
Killed	106	104	696	858
Injured	279	267	1,962	2,496

Equipment on Order

Class I railroads on September 1 had 8,892 new freight cars on order, according to the Association of American Railroads. On the same date in 1937 there were 31,419 on order, and on September 1, 1936, there were 22,354. On August 1, this year, 10,234 new freight cars were on order. New steam locomotives on order on September 1 totaled 14 compared with 252 on September 1, last year, 43 on the same date two years ago, and 26 on August 1, this year. New electric and Diesel-electric locomotives on order on September 1 totaled 26 compared with 37 on September 1, 1937, 17 on September 1, 1936 and 23 on August 1, this year.

Class I roads in the first eight months of this year installed 7,502 new freight cars, compared with 49,327 in the same period in 1937 and 20,588 in the same period in 1936. In the first eight months of 1938 they also put in service 148 new steam locomotives and 92 new electric and Diesel-electric locomotives, compared with 226 steam and 38 electrics and Diesel-electrics installed in the same period last year, and 20 steam and 17 electrics and

Diesel-electrics installed in the same period in 1936.

New freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Employees Celebrate Centennial of Hudson & Berkshire

A group of active and pensioned employees of the New York, New Haven & Hartford and the Boston & Albany, living in State Line, N. Y., and West Stockbridge, Mass., have planned a celebration for Sunday, September 25, to mark the centennial of the opening of the 32-mile Hudson & Berkshire between State Line and Hudson, N. Y., in 1838. The first railroad to enter Western Massachusetts, the new road gave access to Hudson River tidewater at Hudson and opened up the mountainous Berkshire region. In 1841, the line was extended to Pittsfield and later became part of the Boston & Albany.

Old replicas, including the first timetable of the road owned by a B. & A. pensioner, will be on display and a parade will be staged by local townspeople. On Sunday, the New York, New Haven & Hartford is operating a bicycle and camera fans' train for New Yorkers to the end of its State Line, N. Y., branch, which has been scheduled to accommodate persons desiring to view the celebration.

Changes in New York Central Trains

Effective Sunday, September 25, the New York Central will make a number of important changes, involving faster schedules for some of its trains, new points of arrival and departure for the Wolverine and the Twilight Limited at Chicago, and changes in schedule time for the Twentieth Century Limited and several other trains. These changes are as follows:

The departure times of the Twentieth Century Limited, 16-hour streamliner between Chicago and New York, will be changed one hour to 4 p. m., Central Standard Time, in Chicago and to 6 p. m., Eastern Standard Time, in New York, with a 9 a. m. arrival in both cities. The westbound Lake Shore Limited will be speeded 50 minutes, leaving New York at 6:50 p. m., instead of 7:15 p. m., and arriving at LaSalle Street station at 12:30 p. m., instead of 1:45 p. m. The eastbound Commodore Vanderbilt will cut its schedule 10 minutes to 17 hours and 10 minutes. It will leave Chicago at 2:55 p. m., and reach New York at 9:05 a. m. The westbound Commodore Vanderbilt will retain the same running time, arriving in Chicago at 8:30 a. m.

Morning service from Chicago to Detroit will be expanded by the restoration of the Michigan, which was temporarily discontinued last spring. This train will leave Central Station, Chicago, at 8:30 a. m., and arrive in Detroit at 3:15 p. m. The Water Level Limited, now leaving Chicago at 3:30 p. m., will be changed to 4:05 p. m., and arrive in New York at 10:30 a. m., instead of 9:55 a. m., as at present. The New England States, an all-pullman Chicago-to-Boston train placed in service last June, will leave Chicago at 2:55 p. m., and arrive in Boston at 10:58

a. m., and westbound will leave Boston at 1:50 p. m. and reach Chicago at 8:15 p. m.

The Wolverine, which now uses the LaSalle Street station, will be returned to the Central Station, and the Twilight Limited will be transferred from the Central Station to the LaSalle Street station. In addition, the time of the Wolverine will be changed slightly, leaving Chicago at 1:05 p. m. instead of 12:50 p. m., and arriving in New York at 8:20 a. m. On the return trip it will leave New York at 6:15 p. m., and arrive at Chicago at 1 p. m. The schedule of the Twilight Limited will be the same as before.

Train No. 12, a local leaving Chicago at 5:05 p. m., for Detroit, will be discontinued.

Explosives by Motor Vehicle

Hearings in connection with the Interstate Commerce Commission's Ex Parte No. MC 13 proceeding relating to regulations for the transportation of explosives and other dangerous articles by motor vehicle will open on October 10 at Los Angeles, Calif. This session, conducted by Examiner W. P. Croft, will be followed by others at Tulsa, Okla., on October 17 before Examiner Clarence Simmons, and at Washington, D. C., on October 26 before Commissioner John L. Rogers.

The notice of hearing summarizes the scope of the proceeding as follows:

(a) The matter of the modification of regulations prescribed November 6, 1934, under the Transportation of Explosives Act, insofar as such regulations pertain to qualifications and maximum hours of service of employees and safety of operation and equipment by common carriers by motor vehicle;

(b) The matter of the establishment of reasonable requirements governing the transportation of explosives and other dangerous articles by contract carriers by motor vehicle in interstate or foreign commerce;

(c) The need for the establishment, and if need therefor be found, the establishment of requirements governing the transportation of explosives and other dangerous articles by private carriers by motor vehicle in interstate or foreign commerce;

Meanwhile the commission has issued a draft of proposed regulations which, when adopted, will become Part VI of its Motor Carrier Safety Regulations. "This draft," says I. C. C. Secretary W. P. Bartel's letter of transmittal, "has been revised in accordance with many suggestions received at conferences and through private interviews, and is the final draft to be issued on this subject prior to hearings. Comment and criticism upon this draft should be presented at one or more of the hearings . . . so that they may be made a part of the official record in this proceeding."

Formal Wage Reduction Notice Served

As the result of the refusal of railroad employees to submit the present wage controversy to an arbitration board, individual railroad managements throughout the United States notified their employees late last week that a reduction of 15 per cent in existing rates of pay will be made effective at 12:01 a. m. Saturday, October 1, under the provisions of the Railway Labor Act, and in conformance with the official notice of such a reduction served by the individual carriers upon their employees on May 12. Advice as to the effective date of the wage reduction was

given by the individual companies in the following letter addressed to representatives of each employee organization included in the national wage controversy.

"We are again calling your attention to the notice of May 12, 1938, of our intention to reduce all rates of compensation, including arbitraries, special allowances and all other forms of money payments, 15 per cent, effective July 1, 1938. A copy of that notice is attached hereto. A similar notice was served by this carrier on its other classes of employees and by other carriers on their various classes of employees.

"The effective date of the wage reductions covered by the notice of May 12, has been postponed from time to time by the operation of the Railway Labor Act, that is to say, by conferences between representatives of the carriers and representatives of the employees and by mediation.

"The efforts of the National Mediation Board to bring about an amicable settlement by mediation were unsuccessful and that board in accordance with the requirement of Section 5 of the Railway Labor Act, endeavored to induce the parties to submit their controversy to arbitration. This carrier, together with other carriers, expressed its willingness to arbitrate, but the representatives of your organization, as well as the representatives of other national railway labor organizations, refused to arbitrate. Accordingly, on August 31, the National Mediation Board notified all parties in writing that its mediatory efforts had failed.

"This is to inform you that pursuant to the said notice of May 12, this company will reduce all rates of compensation, including arbitraries, special allowances and all other forms of money payment 15 per cent, effective 12:01 a. m., October 1, 1938, which is 30 days after August 31, the date when the National Mediation Board notified the parties in writing that its mediatory efforts had failed."

In the meantime, the railway brotherhoods continued taking their strike votes, the results of which are to be announced on September 25.

Carnegie-Illinois Reduces Prices of Rails, Fastenings

A reduction of \$2.50 per gross ton or 5.7 per cent in the price of steel rails and reductions of from \$2 to \$5 per ton in track fastenings went into effect on September 19 at the Chicago and Pittsburgh plants of the Carnegie-Illinois Steel Corporation. The reductions, which are expected to be followed by similar reductions at other mills, are about equal to reductions which were made in various steel prices last June and were the first changes in prices of track materials since March 5, 1937, when iron and steel prices were raised to a level about 15 per cent above the prices prevailing early in 1936. The new prices are as follows:

No. 1 Rails over 60 lb. per yard, \$40 per gross ton, f. o. b. mills—a reduction of \$2.50 per gross ton.

No. 2 rails, \$38 per gross ton, f. o. b. mills—a reduction of \$2.50 per gross ton.

Standard splice bars for rails over 60

lb. per yard, billet steel, \$2.70 per 100 lb. delivered f. o. b. mills—a reduction of \$2 per net ton.

Cut spikes \$3.025 per 100 lb. delivered f. o. b. Pittsburgh and \$3.03 at Chicago—a reduction of \$3 per net ton.

Screw spikes, \$4.575 per 100 lb. delivered f. o. b. Pittsburgh and \$4.58 at Chicago—a reduction of \$5 per net ton.

Track bolts \$4.175 per 100 lb. delivered f. o. b. Pittsburgh and \$4.18 at Chicago—a reduction of \$4 per net ton.

Tie plates \$43.50 per net ton delivered f. o. b. Pittsburgh and \$43.60 at Chicago—a reduction of \$3 per net ton.

The reduction in the price of steel rails to \$40 per gross is the tenth revision in 17 years. The price was reduced from \$47 to \$45.25 in October, 1921, and to \$40 in November, 1921. It was then increased to \$43 in October, 1922 and continued at \$43 until November, 1932, when two successive reductions brought the price to \$40. This price held until October, 1933, when the price was cut to \$36.375. It was increased to \$39 in December, 1936, and to \$42.50 in March, 1937.

There has been very little railway buying of iron and steel this year as a result of reduced revenues of the railroads and mounting deficits and it is thought by the steel manufacturers that the price reductions will stimulate purchases. The railroads were the second largest consumer of iron and steel in 1937, with shipments of finished steel from the mills for the railroads totaling \$3,890,000 or 12 per cent of the total. Direct expenditures for iron and steel products totaled \$285,000,000 in 1937, inclusive of freight charges but exclusive of iron and steel for locomotives and cars purchased from builders.

Siddall Addresses New York Traffic Men

Contending that fare levels have a direct effect on railroad passenger revenues, H. W. Siddall, chairman, Western Passenger Association, the Trans-Continental Passenger Association and the Railway Ticket Protective Association, voiced the belief that passenger traffic will expand tremendously in the future, in a speech delivered on September 21 at a joint luncheon of the Traffic Club of New York and the General Eastern Passenger Agents Association. To prove his point that passenger traffic responds to factors of fare and service, as well as to general economic conditions, the speaker asserted that while between 1923 and 1929, a period of great prosperity, passenger volume declined steadily, during the first seven months of this year, a depression period, passenger traffic declined only 7 per cent, while freight traffic dropped 24 per cent. As a further example, he cited the Alton, whose passenger revenues rose 5 per cent between January 1 and September 1 and the Burlington, Milwaukee, Rock Island and North Western roads, whose passenger receipts declined only about 3 per cent during the same period. Mr. Siddall also expressed the opinion that both the New York and San Francisco fairs of 1939 ought to bring to the railroads a greater share of visitors than to any other form of transportation.

Says Automobilists Can't See Grade Crossings

The American Automobile Association has launched what its press release calls a demand for "action that would assure immediate improvement of visibility conditions at railroad grade crossings." The demand comes "following the receipt of numerous complaints from members motoring in every section of the country;" and it has taken the form of an A. A. A. appeal "particularly to railroad executives, highway commissions and highway engineers."

At the same time, the announcement says, the Association has "urged its members to report to national headquarters in Washington instances of locations where conditions are particularly bad." These conditions, it was stated, will be further investigated, and representations made to the proper authorities.

Thomas P. Henry, of Detroit, Mich., president of the A. A. A., explained the Association's position in the following statement:

"Although the number of grade crossings in the United States has been reduced by approximately 5,000 during the last five years, the curve of grade crossing accidents has climbed steadily upward during that period. In 1933, there were 3,236 grade crossing accidents, causing 1,511 deaths and 3,697 injuries, as compared with 4,489 accidents, causing 1,875 deaths and 5,136 injuries in 1937. This represented an increase of 38.7 per cent in accidents, 24 per cent in deaths, and 38.9 per cent in injuries.

"As might be expected, the great majority of the accidents occurred at crossings that were provided with inadequate warning signals. Approximately 65 per cent of all accidents occurred at crossings marked only with stationary devices that do not warn of a train approach or that were otherwise unprotected. The remainder occurred at crossings protected all or a part of the day by watchmen, by gates, or by audible or visible signals.

"In all probability, one of the major reasons for the large percentage of accidents at crossings is that the motorist is not given sufficient warning that he is approaching a railroad track. All too often, the standard warning sign is located too close to the tracks, is badly in need of paint, and is obscured by trees, shrubbery or signboards.

"Stress is often laid on the fact that a considerable number of grade crossing accidents are caused by motor vehicles running into the sides of trains. To my mind, this is clear indication of the fact that present-day grade crossing warning systems are hopelessly inadequate to cope with modern train and automobile speeds. Most of the nation's 230,000 grade crossings are still marked just as they were in the horse-and-buggy days.

"Largely through expenditure of Federal funds, grade crossings are gradually being eliminated, but the process is a long and costly one. In the immediate future, the great need is to erect warning signals that will give motorists ample notice that they are approaching a danger zone."

Construction

ATCHISON, TOPEKA & SANTA FE.—This road has awarded two contracts in connection with the relocation of 3551 ft. of its line near Pinole, Cal., and 1440 ft. of State Highway No. 14, involving the elimination of the railroad's old timber lined tunnel 1045 ft. long, built in 1898, and the construction over the tracks of a new reinforced concrete viaduct 425.6 ft. long with two 25-ft. traffic lanes, a dividing curb, and sidewalks. The contract for the railroad relocation, which involves 286,000 cu. yd. of excavation was awarded to the Sharp and Fellows Contracting Company, Los Angeles, Cal., and the highway work, including the bridge, which will involve approximately 29,000 cu. yd. excavation, 440,400 lb. of reinforcing steel, and 1,901 cu. yd. of concrete, was awarded to the Union Paving Company, San Francisco, Cal.

ILLINOIS CENTRAL-MICHIGAN CENTRAL.—A contract amounting to \$196,000 has been awarded by the Chicago Park District to the Ketler-Elliott Company, Chicago, for the rebuilding and widening of the Monroe Street viaduct over 17 tracks of these roads. The new structure, which will be 282 ft. long, will have a new, wider reinforced concrete deck on I-beam girders. The old concrete piers will be built-up and re-used, and the new sidewalks will be supported by cantilever beams.

NEW YORK CENTRAL.—Plans have been made by this company to lengthen two passenger platforms which serve four tracks, on the lower level of the Grand Central Terminal, New York. The facilities are to be provided to accommodate longer trains.

PENNSYLVANIA.—A general contract has been let to James Stewart & Company, Inc., New York, for elevation of the Pennsylvania tracks through Woodbridge, N. J., and the elimination of crossings at Freeman, Greene and Main streets, Factory Lane and Ballantines crossing, at a cost of \$871,000. The work involves the use of 750 tons of structural steel. See *Railway Age* of September 10, page 390.

READING.—Contracts have been let to the Yeo Construction Company, Chestnut Hill, Pa., for the grading, masonry and appurtenant work, and to Ralph V. Rulon, Inc., Philadelphia, Pa., for the waterproofing, in connection with the reconstruction of bridge 50/88 and the construction of bridge 51/19 over the east and west branches of Spring Creek, east of Harrisburg station, on the Lebanon Valley branch of this road in Swatara township, Pa. The work will cost about \$74,284 and involves the use of approximately 135 tons of steel beams.

WESTERN PACIFIC.—The California State Highway Commission has awarded a contract to G. Pollock Company, Sacramento, Cal., amounting to approximately \$118,000, for the construction of a reinforced concrete overhead highway bridge over Wolf creek and the tracks of this road north of Greenville, Cal.

Continued on next left-hand page

METHODS AND MACHINERY THAT GUARD LIMA QUALITY



RODS ARE RIGHT

Rods are a vital part of the locomotive. Their correct fit means so much in reduced maintenance that Lima has introduced many refinements into their manufacture. » » » All machine work on rods is done with jigs so that the rods are accurate when completed. There is no fitting to be done when the rods are applied. They are set up in the shop on an assembly jig which makes sure of the complete interchangeability of rods on the same group of locomotives. » » » This care in rod manufacture is one reason why Lima-built locomotives "break in" easily.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

Equipment and Supplies

LOCOMOTIVES

THE WHEELING & LAKE ERIE has arranged to purchase 5 type 2-8-4 locomotives from the American Locomotive Company.

FREIGHT CARS

THE NEVADA CONSOLIDATED COPPER CORPORATION is inquiring for from 15 to 20 air dump cars of 30 cu. yd. capacity.

THE ILLINOIS CENTRAL has ordered 1000 box cars of 40-tons' capacity, with steel sheathing and wood lining, costing approximately \$2,700,000, from the American Car & Foundry Co. at St. Louis, Mo., for early 1939 delivery. The cars will be acquired by the Illinois Central under a rental arrangement which will amortize the cost over a period of 15 years.

PASSENGER CARS

THE SOUTHERN has ordered, subject to the approval of the Interstate Commerce Commission, four Diesel-electric passenger trains, consisting of two units each, consisting of an 80-ft. steel Diesel-electric combined mail, baggage and power car, and a 63-ft. 10-in. steel air conditioned passenger coach. These trains will be built by the St. Louis Car Company, and the engines supplying the power will be constructed by Fairbanks, Morse & Co. The Alabama Great Southern has also ordered two trains of identical specifications from the same builder. Inquiry for this equipment was reported in the *Railway Age* of August 13, page 264.

IRON AND STEEL

PENNSYLVANIA.—Bids have been received for about 750 tons of structural steel for grade crossing elimination work on this road at Woodbridge, N. J. James Stewart & Company, Inc., New York, has the general contract.

SOUTHERN PACIFIC.—A contract has been given to the American Bridge Company for about 5,500 tons of steel to be used in the first bridge, one of eight that will be required in connection with the relocation of the Southern Pacific around the Shasta Dam site, Cal.

READING.—A contract has been given to the Carnegie-Illinois Steel Corporation, Philadelphia, Pa., for about 135 tons of steel beams to be used in connection with the reconstruction of bridge 50/88 and the construction of bridge 51/19 in Swatara township, Pa.

NEW YORK CENTRAL.—Bids will be received at the office of the purchasing agent in New York on October 3, for this road's requirements of new rail and maintenance of way materials. An item in the *Railway Age* of September 10, reported that this company expected to issue inquiries for rail.

SIGNALING

MICHIGAN CENTRAL.—Bids will be received at the office of the assistant signal engineer of this road, room 545, 15th Street Terminal, Detroit, Mich., until 2:00 p. m. (e.s.t.) on October 11, for the furnishing of signal material to be used in connection with highway grade crossing protection at one crossing in the State of Illinois.

ATLANTIC COAST LINE.—Bids will be received by this road at its offices in Wilmington, N. C., until 11:00 a. m., October 15, for furnishing materials for two railroad grade crossing signal installations to be installed under federal grade crossing program in the state of North Carolina. Particulars may be obtained from F. H. Fechtig, purchasing agent, Wilmington.

THE INTERBOROUGH RAPID TRANSIT COMPANY, New York, has placed an order with the Union Switch & Signal Co., for materials to be used in the installation of automatic block signaling of the local tracks on its Lexington Avenue line between 125th street and Grand Central station. This work involves 95 sets of color light signals each with electro-pneumatic automatic train stops, 331 direct and alternating current relays, 205 relay cases, etc. The field installation will be carried out by the Interborough's signal construction forces.

Supply Trade

John S. Lemley, 1641 Railway Exchange building, St. Louis, Mo., has been appointed representative of the **Graham-White Sander Corporation**, for the St. Louis and Southwestern region.

Abbott F. Riehle, formerly in charge of sales and management of the Riehle Bros. Testing Machine Co., has been appointed sales manager of the smootharc welder and welding electrode divisions of **Harnishfeger Corporation**, Milwaukee, Wis.

Curtis G. Green, formerly district manager for the **Baldwin Locomotive Works** at St. Louis, Mo., has been transferred to the Chicago office as assistant district manager. **A. B. McCoy**, who had been Mr. Green's assistant, has been appointed district manager at St. Louis. **Henry K. Patjens** has been transferred from Chicago to the St. Louis office as assistant to Mr. McCoy.

The stockholders of the **National Lumber and Creosoting Company**, Texarkana, Ark., with plants at Texarkana and Houston, Tex., which is a subsidiary of **The Wood Preserving Corporation**, Pittsburgh, Pa., have approved the dissolution of National Lumber and Creosoting Company and the transfer of its properties to the parent company. All operations of the National Company will be conducted by the Wood Preserving Corporation.

Financial

CENTRAL OF NEW JERSEY.—*Abandonment*.—This company has asked the Interstate Commerce Commission for authority to abandon a branch line extending from Bowentown Junction, N. J., to Greenwich Pier, 4.8 miles.

CHICAGO, BURLINGTON & QUINCY.—*Abandonment*.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon a branch line extending from Koyle, Iowa, in a general southerly direction to Cainsville, Mo., 20.6 miles.

FONDA, JOHNSTOWN & GLOVERSVILLE.—*Reorganization Hearing Date Postponed*.—The Interstate Commerce Commission, Division 4, has postponed from October 6, 1938, to May 8, 1939, the date for a public hearing in the reorganization case of this company.

KANSAS CITY SOUTHERN.—*Purchase by Kansas City Southern Transport Company*.—This wholly-owned subsidiary of the Kansas City Southern has asked the Interstate Commerce Commission for authority to purchase and to temporarily lease the operating rights of the Tri-State Transit Company of Louisiana, Inc., operating between DeQuincy, La., and Lake Charles.

LEHIGH VALLEY.—*Pledge of Securities*.—The Interstate Commerce Commission, Division 4, has authorized this company to pledge and repledge from time to time, as a part of the collateral security for a short-term note for \$6,175,000, all or any part of \$14,000,000 of general consolidated mortgage five per cent bonds, \$1,000,000 of general consolidated mortgage 4½ per cent bonds, \$5,000,000 of Lehigh-Buffalo Terminal 4½ per cent first mortgage bonds, and \$1,000,000 of Lehigh Valley Coal Company six per cent secured notes.

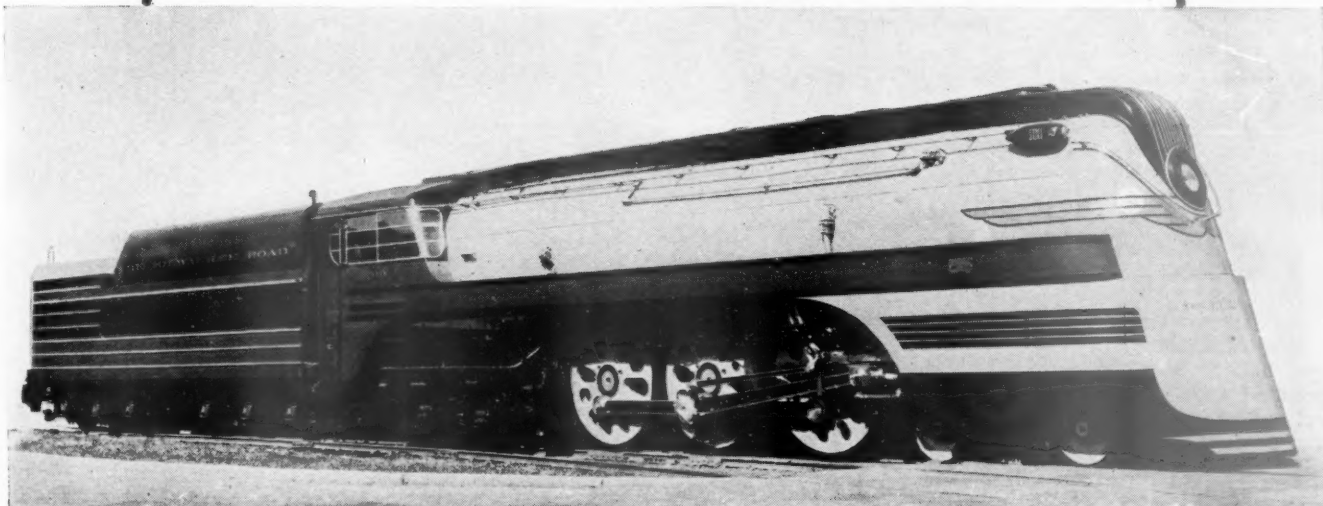
LOUISVILLE & NASHVILLE.—*Abandonment*.—This company has applied to the Interstate Commerce Commission for authority to abandon a line extending from Russellville, Ky., to Adairville, 12 miles.

MISSOURI PACIFIC.—*Lease of the Kiowa, Hardtner & Pacific*.—The Interstate Commerce Commission, Division 4, has authorized the trustee to lease the Kiowa, Hardtner & Pacific extending from Kiowa, Kan., to Hardtner, 10.4 miles.

NEW YORK, CHICAGO & ST. LOUIS.—*Note Extension*.—G. D. Brooke, president of this road has made the following announcement. "I am pleased to state that the response to our request for the extension of the Nickel Plate 6 per cent notes due October 1 has been very encouraging. During the past fortnight we have received deposits of approximately 10 per cent of the notes, making the total deposited approximately 85 per cent. The company has extended to and including September 30, 1938, the time for depositing the notes under the plan dated July 23, 1938, for the extension of the maturity of the notes to October 1, 1941. It is

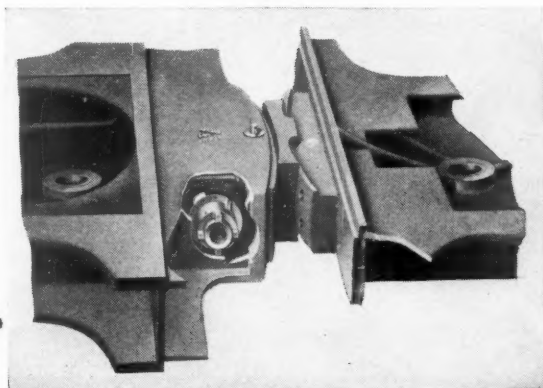
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Type E-2 Radial Buffers



provide Greater Safety, Improved Riding, and Lower Maintenance

The six new locomotives built for the Chicago, Milwaukee, St. Paul & Pacific by the American Locomotive Co. are equipped with Franklin E-2 Radial Buffers, the most efficient and the best economy-producing arrangement ever devised for maintaining proper adjustment between engine and tender.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

CHICAGO

MONTREAL

hoped that those who have not yet deposited their notes will do so in the next few days, making it possible to declare the plan operative shortly. It would be a great misfortune if a few individuals, whatever their reasons may be, should fail to deposit their notes and thus endanger the success of the plan and the investments of thousands of holders of these and other Nickel Plate securities."

PUGET SOUND & CASCADE.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon the operation of its entire line extending from North Mount Vernon, Wash., to Finney Creek, 27.2 miles, and from North Mount Vernon to Mount Vernon, 1.1 miles.

RUTLAND.—R. F. C. Purchase of Equipment Trust Certificates.—This company has applied to the Interstate Commerce Commission for permission to have the Reconstruction Finance Corporation purchase from holders \$110,000 of five per cent equipment trust certificates at 97 and extend the time of payment to June 1, 1941. Certificates having a face value of \$55,000 became due on June 1 and were not paid. The remaining \$55,000 will mature on June 1, 1939. The \$110,000 is all that remains unpaid of an original issue of \$825,000.

SOUTHERN.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon a branch line extending from a connection with the Knoxville-Bristol line westerly to the water and electric light plant of the town of Morristown, Tenn., on the Holston River, 2.8 miles.

SOUTHERN.—RFC Purchase of Equipment Trust Certificates.—This company has renewed its request to the Interstate Commerce Commission that it be permitted to sell to the Reconstruction Finance Corporation \$500,000 of Series DD equipment trust certificates, the proceeds to be used, in part, to cover the cost of four Diesel-electric passenger trains.

SOUTHERN PACIFIC.—Abandonment.—This company has asked the Interstate Commerce Commission for authority to abandon a branch line extending from Myrtle Point, Ore., to Powers, 18.8 miles.

Abandonment by Sunset.—The Sunset has asked the Interstate Commerce Commission for authority to abandon a line extending from Taft, Cal., to Shale, 7 miles.

SPOKANE INTERNATIONAL.—Reorganization Case Reopened.—The Interstate Commerce Commission, Division 4, has ordered reopened this company's reorganization case in which the commission has approved a final plan of reorganization. The Division did not set a time for oral argument on modifications of the plan, but said that one would be set at a later date.

Average Prices of Stocks and Bonds

	Sept. 20	Last week	Last year
Average price of 20 representative railway stocks..	26.08	24.79	41.60
Average price of 20 representative railway bonds..	57.34	58.04	75.86

Railway Officers

FINANCIAL LEGAL AND ACCOUNTING

Horace L. Walker has been appointed a general attorney of the Chesapeake & Ohio, with headquarters at Richmond, Va.

Irving A. Littlefield, assistant treasurer of the Railway Express Agency at Atlanta, Ga., has been transferred in the same capacity to New York, succeeding **Charles A. Packie**, who retired on August 1, after 45 years as an expressman.

Thomas Jefferson Peterson, whose appointment as auditor of traffic of the Central of Georgia at Savannah, Ga., was reported in the *Railway Age* of September 3, was born on February 7, 1890, at Stuckey, Ga. He entered railroad service on January 8, 1907, with the Central of Georgia and served until June 15, 1911, as clerk at Wadley, Ga. Mr. Peterson then became cashier at Athens, Ga., which position he held until November, 1911, when he became clerk in the comptroller's office at Savannah. On April 1, 1913, he was appointed chief clerk, agents' accounts, with the same headquarters, and became chief traveling auditor at Savannah, on November 1, 1915. Mr. Peterson went with the Colorado & Southern on July 1,



T. J. Peterson

1918, as chief clerk disbursements, federal auditor's office, at Denver, Colo. He returned to the Central of Georgia on March 1, 1919, as chief traveling auditor, at Savannah, and on August 1, 1920, became assistant to auditor of traffic.

Hugh Lee Fulton, Jr., whose appointment as comptroller of the Central of Georgia was reported in the *Railway Age* of September 3, was born on January 23, 1888, at Savannah, Ga. He entered railroad service with the Central of Georgia on October 1, 1904, and served until February 29, 1910, as clerk in the accounting department at Savannah. He then became assistant head clerk, passenger accounts there, which position he held until July 31, 1911, when he became head clerk, passenger accounts. On January 1, 1919, Mr.

Fulton was appointed chief clerk to auditor of traffic and on August 1, 1920, he became auditor of traffic, the position he held until his recent appointment as comptroller, at



H. L. Fulton, Jr.

Savannah. Mr. Fulton has also been appointed auditor of the Sylvania railway, the Wrightsville & Tennille, the Wadley Southern, Louisville & Wadley, and the Sylvania Central, as well as comptroller of the Ocean Steamship company of Savannah, succeeding M. F. Harden, deceased.

OPERATING

S. H. Fulkerson, assistant superintendent on the Louisville & Nashville with headquarters at Knoxville, Tenn., has been promoted to superintendent, succeeding **R. C. Morrison**, who has retired.

Kenneth W. Graham, terminal trainmaster on the Louisville & Nashville at Corbin, Ky., has been promoted to assistant superintendent at Louisville, Ky., succeeding **Roger D. Smith**, whose death was reported in the *Railway Age* of September 3. **S. A. Brownlie**, assistant trainmaster at Loyall, Ky., has been promoted to terminal trainmaster at Corbin replacing Mr. Graham.

TRAFFIC

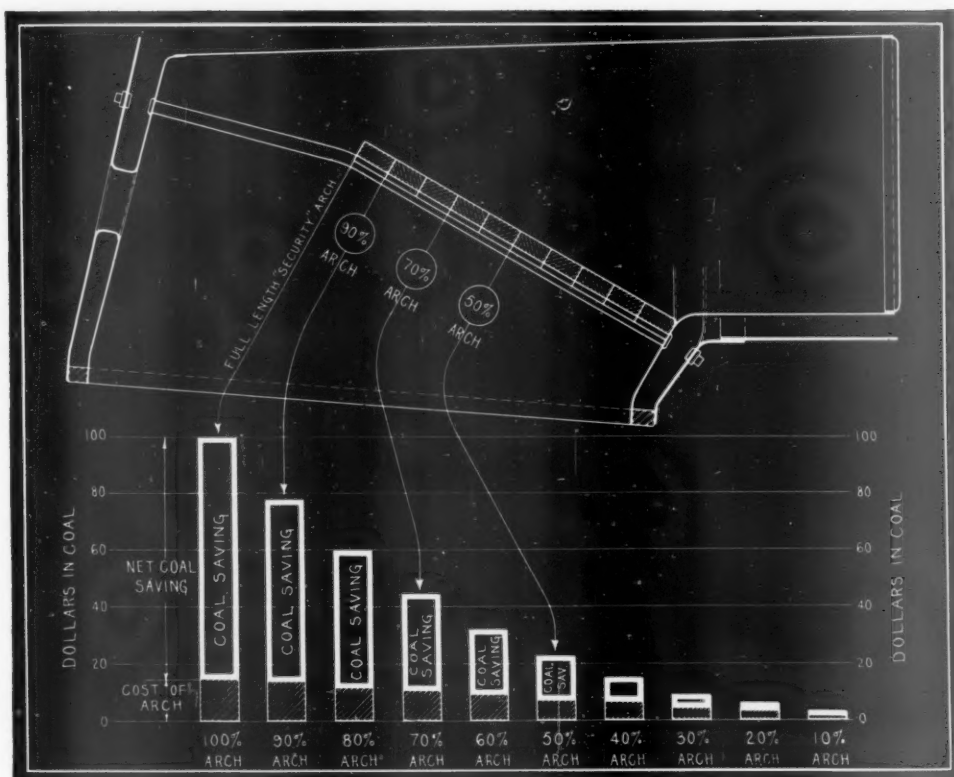
B. H. Taylor has been appointed assistant to freight traffic manager of the Atlantic Coast Line, with headquarters at Jacksonville, Fla.

L. W. Bade, assistant passenger traffic manager of the Wabash, with headquarters at Chicago, has been transferred to St. Louis, Mo., and **Harvey E. Dixon**, assistant general passenger agent at St. Louis, has been transferred to Chicago.

L. B. Magruder, in charge of the stenographic department on the St. Louis Southwestern at St. Louis, has been promoted to assistant to the traffic manager at St. Louis, Mo., succeeding **P. M. Bunting**, who has been appointed assistant to the general freight agent at that point.

Cooper Hunt, assistant general passenger agent for the Texas & Pacific, with headquarters at New York, has been promoted to general eastern agent, succeeding

Continued on next left-hand page



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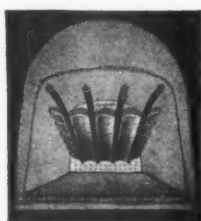
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J. M. Dermody, deceased, and **H. J. Higgins**, has been appointed eastern passenger agent, a newly created position.

Sam Howells, traveling agent on the Chicago & North Western at New Orleans, La., has been promoted to general agent at that point succeeding **O. L. Thompson**, who has been promoted to division freight and passenger agent, with headquarters at Sioux City, Ia. Mr. Thompson replaces **O. C. Scherer**, who has been appointed special representative with the same headquarters.

Louis M. Dunn, general agent on the Elgin, Joliet & Eastern, with headquarters at Chicago, has been promoted to assistant general freight agent, with the same headquarters, succeeding to the duties of **W. F. Hummel**, who in turn has taken over the duties of **Karl M. Guenther**, whose death was announced in the *Railway Age* of August 6. **Guy S. Louis**, who has been in charge of the tariff bureau has been advanced to chief of tariff bureau, a newly created position.

E. M. Holt, assistant general passenger agent of the Long Island, with headquarters at New York, has been transferred in the same capacity to the Pennsylvania, at Philadelphia, Pa. **E. R. Comer**, division passenger agent of the Pennsylvania, at New York, has been appointed assistant general passenger agent of the Long Island, with the same headquarters to succeed Mr. Holt. **J. V. Sowers**, division passenger agent, (P. R. R.) at Cincinnati, Ohio, has been transferred in the same capacity to New York. **C. M. Trueb**, division passenger agent at Indianapolis, Ind., has been transferred in the same capacity to Cincinnati, succeeding Mr. Sowers. **Homes Bannard**, New England passenger agent, with headquarters at Boston, Mass., has been appointed division passenger agent at Indianapolis, succeeding Mr. Trueb.

ENGINEERING AND SIGNALING

F. P. Filippelli, supervisor of the Maryland division of the Pennsylvania, has been appointed assistant division engineer of that division, succeeding **P. X. Geary**, who has been appointed acting engineer of the Washington (D. C.) Terminal Company.

F. O. Condon, acting regional chief engineer of the Canadian National, with headquarters at Moncton, N. B., has been appointed regional chief engineer, Atlantic region, at Moncton, succeeding **H. T. Hazen**, who retired last December. Mr. Condon was born at Moncton and educated in the public schools of that city. On February 14, 1893, he joined the Intercolonial Railway (Canadian National) at Moncton as a messenger in the engineering department. He was appointed draughtsman in October, 1899, and on April 1, 1912, was appointed divisional engineer. The following year he was appointed resident engineer at Campbellton, N. B., and returned to Moncton on January 1, 1916, as division engineer. On March 3, 1923, he was appointed engineer maintenance of way, Canadian National,

and became principal assistant engineer on November 15, 1927. Mr. Condon was appointed office engineer on September 1,



F. O. Condon

1932, and held that position until January of this year, when he was appointed acting regional chief engineer. Mr. Condon is a member of the Engineering Institute of Canada, the American Railway Engineering Association, and the New Brunswick Association of Professional Engineers.

MECHANICAL

F. A. Butler, superintendent motive power and rolling stock of the Boston & Albany, with headquarters at Boston, Mass., will retire on September 30.

William H. Hartnett, general car foreman on the Chicago & North Western at Milwaukee, Wis., has been promoted to assistant district master car builder at Chicago, succeeding **A. W. Berger**, who died on July 5.

William Schwartz, day roundhouse foreman on the Chicago, Burlington & Quincy at Casper, Wyo., has been promoted to acting master mechanic of the Casper division, with headquarters at Casper, succeeding **D. Nott**, who has been transferred to the Alliance division, with headquarters at Alliance, Neb., replacing **C. J. Dietrich**. Mr. Dietrich has been transferred to the Galesburg-Ottumwa division, with headquarters at Galesburg, Ill., relieving **E. A. Schrank**, who retired on September 16 because of ill health.

PURCHASES AND STORES

K. L. Brenner, assistant purchasing agent on the Wabash, at St. Louis, Mo., has been promoted to acting purchasing agent at that point, succeeding to the duties of **T. J. Frier**, who has been granted a leave of absence on account of ill health.

SPECIAL

Dr. D. B. Moss, chief medical officer of the Chicago, Burlington & Quincy, with headquarters at Chicago, retired September 15, and **Dr. O. H. Horrall**, general surgeon and specialist in bone surgery of the Chicago, Burlington & Quincy at that point, has been appointed chief surgeon

in charge of all surgical work. **Dr. R. B. Kepner**, medical examiner at Chicago, has been appointed medical director of the relief department, and also medical officer of the system, in charge of all medical work.

OBITUARY

J. D. Davenport, master mechanic of the Chesapeake & Ohio, with headquarters at Clifton Forge, Va., died on September 19.

Harry A. Worcester, retired vice-president of the Cleveland, Cincinnati, Chicago & St. Louis, and a former president of the Cincinnati Union Terminal, died at Cincinnati, Ohio on September 18. Mr. Worcester was born at Albany, N. Y. on November 18, 1862, and graduated from Yale University in 1884. He entered railway service the following year as an assistant station master on the New York Central & Hudson River (now the New York Central) and in 1890 he went with the Lake Shore & Michigan Southern (now also part of the N. Y. C.) as a clerk at Buffalo, N. Y. After being successively promoted to assistant trainmaster and division superintendent, he went with the Michigan Central in May, 1905, as assistant general superintendent, and in De-



Harry A. Worcester

cember of that year he was advanced to general superintendent. The following year he returned to the Lake Shore & Lake Michigan Southern as general superintendent, and shortly thereafter he was promoted to assistant general manager of the Cleveland, Cincinnati, Chicago & St. Louis. In 1913, he was advanced to general manager, and in 1916, he was appointed vice-president and general manager. During the period of federal control of the railroads Mr. Worcester served as district director of the Ohio-Indiana district, and upon its termination he was elected vice-president in charge of operations of the Big Four, with headquarters at Cincinnati. In 1930, he relinquished active management and was appointed resident vice-president of the New York Central with the same headquarters. On November 30, 1932, he retired as vice-president of the New York Central, but continued as president and a director of the Cincinnati Union Terminal until the following year.

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The Crane No. 376P plug disc valve is ideal for any locomotive application. Investigate it for better performance in throttling service. All Crane valves may be had with stem end for Universal Joint.

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Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 137 Monthly Reports of Revenues and Expenses Representing 141 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF JULY, 1938 AND 1937

Item	United States		Eastern District		Southern District		Western District	
	1938	1937	1938	1937	1938	1937	1938	1937
Miles of road operated at close of month	234,486	235,388	57,992	58,157	44,618	44,780	131,876	132,451
Revenues:								
Freight	\$238,145,695	\$293,066,925	\$87,842,162	\$117,238,282	\$45,117,250	\$52,904,424	\$105,186,283	\$122,924,219
Passenger	38,035,611	42,059,309	20,600,396	23,013,902	4,033,035	4,901,227	13,402,180	14,144,180
Mail	7,456,937	7,808,626	2,831,592	2,984,940	1,295,231	1,361,908	3,330,114	3,461,778
Express	2,311,736	4,213,999	782,107	1,781,771	303,709	647,218	1,225,920	1,785,010
All other operating revenues	13,691,071	17,936,841	6,489,140	8,932,355	1,541,312	1,819,379	5,660,619	7,165,107
Railway operating revenues	299,641,050	365,085,700	118,545,397	153,951,250	52,290,537	61,654,156	128,805,116	149,480,294
Expenses:								
Maintenance of way and structures	36,960,600	47,644,140	12,514,604	17,977,148	6,226,644	7,490,357	18,219,352	22,176,635
Maintenance of equipment	53,006,541	70,657,923	21,155,329	31,133,696	10,369,101	12,981,753	21,482,111	26,542,474
Traffic	8,575,420	9,047,061	3,195,891	3,336,094	1,549,571	1,626,774	3,829,958	4,084,193
Transportation—Rail line	109,969,063	124,804,127	47,548,549	56,075,474	17,784,076	19,459,552	44,636,436	49,269,101
Transportation—Water line	365,133	432,263					365,133	432,263
Miscellaneous operations	3,206,473	3,706,066	1,397,424	1,587,161	293,200	356,580	1,515,849	1,762,325
General	10,434,267	10,837,188	4,196,904	4,338,804	1,954,625	2,062,691	4,282,738	4,435,693
Transportation for investment—Cr.	293,265	543,118	53,335	85,287	67,242	60,654	172,688	397,177
Railway operating expenses	222,224,232	266,585,650	89,955,366	114,363,090	38,109,975	43,917,053	94,158,891	108,305,507
Net revenue from railway operations	77,416,818	98,500,050	28,590,031	39,588,160	14,180,562	17,737,103	34,646,225	41,174,787
Railway tax accruals	28,060,809	26,390,670	12,088,881	12,214,341	5,287,124	5,499,499	10,684,804	8,676,830
Railway operating income	49,356,009	72,109,380	16,501,150	27,373,819	8,893,438	12,237,604	23,961,421	32,497,957
Equipment rents—Dr. balance	8,177,235	8,255,478	3,340,808	3,313,440	117,348	125,384	4,719,079	4,816,654
Joint facility rent—Dr. balance	2,791,565	2,868,626	1,490,874	1,615,755	297,685	351,002	1,003,006	901,869
Net railway operating income	38,387,209	60,985,276	11,669,468	22,444,624	8,478,405	11,761,218	18,239,336	26,779,434
Ratio of expenses to revenues (per cent)	74.2	73.0	75.9	74.3	72.9	71.2	73.1	72.5
Depreciation included in operating expenses	16,907,205	16,359,413	7,380,816	7,281,258	3,298,579	3,126,151	6,227,810	5,952,004
Pay roll taxes	7,960,629	2,305,480	3,350,051	2,249,191	1,410,374	497,580	3,200,204	*441,291
All other taxes	20,100,180	24,085,190	8,738,830	9,965,150	3,876,750	5,001,919	7,484,600	9,118,121

FOR SEVEN MONTHS ENDED WITH JULY, 1938 AND 1937

Miles of road operated at close of month†	234,638	235,654	58,016	58,286	44,609	44,791	132,013	132,577
Revenues:								
Freight	\$1,533,965,894	\$1,997,884,080	\$605,141,346	\$861,459,448	\$314,588,272	\$387,404,094	\$614,236,276	\$749,020,538
Passenger	235,541,578	253,748,897	128,330,821	138,751,794	33,267,254	36,975,048	73,943,503	78,022,055
Mail	54,047,363	55,663,215	20,608,860	21,277,812	9,471,387	9,828,012	23,967,116	24,557,391
Express	25,067,565	34,944,737	8,519,256	14,121,742	5,410,010	7,650,220	11,138,299	13,172,775
All other operating revenues	87,427,145	109,717,854	43,026,149	55,644,731	11,521,196	13,880,613	32,879,800	40,192,510
Railway operating revenues	1,936,049,545	2,451,958,783	805,626,432	1,091,255,527	374,258,119	455,737,987	756,164,994	904,965,269
Expenses:								
Maintenance of way and structures	232,576,846	289,759,377	84,383,316	113,580,409	44,313,873	50,840,681	103,879,657	125,338,287
Maintenance of equipment	384,755,928	491,347,023	158,461,931	224,882,698	74,769,475	37,663,387	151,524,522	178,800,938
Traffic	60,234,844	61,211,788	21,917,561	22,508,707	11,412,739	11,575,621	26,904,544	27,127,460
Transportation—Rail line	778,515,163	869,000,016	342,327,348	394,331,806	132,800,348	143,269,910	303,387,467	331,398,300
Transportation—Water line	2,772,010	3,310,929					2,772,010	3,310,929
Miscellaneous operations	21,858,152	23,472,996	9,713,221	10,458,456	2,833,631	3,124,141	9,311,300	9,890,399
General	75,206,664	89,723,943	29,896,408	38,364,275	14,315,917	15,985,048	30,994,339	35,374,620
Transportation for investment—Cr.	1,733,047	2,670,649	335,052	387,133	311,795	392,919	1,086,200	1,890,597
Railway operating expenses	1,554,186,560	1,825,155,423	646,364,733	803,739,218	280,134,188	312,065,869	627,687,639	709,350,336
Net revenue from railway operations	381,862,985	626,803,360	159,261,699	287,516,309	94,123,931	143,672,118	128,477,355	195,614,933
Railway tax accruals	197,064,346	190,387,944	83,810,713	87,227,892	38,628,782	42,305,794	74,624,851	60,854,258
Railway operating income	184,798,639	436,415,416	75,450,986	200,288,417	55,495,149	101,366,324	53,852,504	134,760,675
Equipment rents—Dr. balance	54,866,106	54,846,420	22,720,952	23,515,418	4,853,478	3,767,824	27,291,676	27,563,178
Joint facility rent—Dr. balance	20,597,251	21,117,417	10,957,339	11,774,249	2,348,769	2,235,462	7,291,143	7,107,706
Net railway operating income	109,335,282	360,451,579	41,772,695	164,998,750	48,292,902	95,363,038	19,269,685	100,089,791
Ratio of expenses to revenues (per cent)	80.3	74.4	80.2	73.7	74.9	68.5	83.0	78.4
Depreciation included in operating expenses	117,820,833	113,866,384	51,403,324	50,473,230	23,007,379	21,868,961	43,410,130	41,524,193
Pay roll taxes	55,607,868	32,768,176	23,816,276	21,847,185	10,190,440	5,995,289	21,601,152	4,925,702
All other taxes	141,456,478	157,619,768	59,994,437	65,380,707	28,438,342	36,310,505	53,023,699	55,928,556

* Deficit or other reverse items.

† Represents an average of the mileage reported at the close of each month within the period.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

The Week at a Glance

CARLOADINGS: In the June 18 week cars loaded totaled 556 thousand, down 26 per cent under a year ago. That decrease percentage figure is melting slowly, but anyhow it is melting.

TRUCK LOADINGS: May truck loadings were down about 20 per cent under last year, according to the estimate of the American Trucking Association.

EQUIPMENT TRUST: The Pennsylvania received bids this week on an issue of \$6,330,000 of equipment trust certificates, with which it proposes to finance in part the acquisition of \$8,440,000 of new equipment.

FIORIELLO, R. R. EXPERT: The Mayor of New York last week addressed a mass meeting of railroad employees assembled to hiss the proposed wage cut, and told the boys that railroad difficulties were largely due to "bad management." The railroad "patient" has been treated for poison ivy, "when what he needs is to cut off a leg or an arm," in the opinion of the Little Flower. His Honor also favored "eliminating competing lines." (If he doesn't beware, "Labor" will have him in their dog house where they have already incarcerated John Barriger and other merger advocates.)

TIE RENEWALS: 78 railroads renewed more ties in 1937 than in 1936, while 56 roads renewed fewer. The tie insertion programs of the individual roads are reviewed in an article on another page in this issue.

500 BAR CARS: The B. A. R. in this case refers to the Bangor & Aroostook, and the cars are for handling newsprint. The new equipment is just being received from the builder and is illustrated and described elsewhere herein.

PULLMAN FARE RISE: The I. C. C. has granted the Pullman Company an increase of 5 per cent in its rates, compared with the 10 per cent boost the company asked for. Five commissioners entered separate opinions, one concurring, three concurring in part and one dissenting. Commissioner Eastman said that "few, if any, public service companies in this country have been more generously treated than the Pullman Company" and, he added, "the public has, in substance and effect, itself supplied a very large part" of the Pullman investment.

FARE INCREASE CASE: Assistant Director White of the I. C. C. Bureau of Statistics presented figures at the Eastern lines' fare increase hearing this week which indicated that last December's fare increase in the South brought a decline in railroad revenues, while in the first quarter of 1938 bus lines in the region enjoyed an

increase of 17 per cent in gross revenues over a year ago. If the proposed higher fares do not work out, the railroads will be the first to seek a change—was the testimony of Walter Franklin, to which Commissioner Porter rejoined that they had kept the 3.6-cents rate for about 15 years with traffic steadily dwindling.

SOAKING THE POOR: Railway labor union policy is working constantly to the enrichment of the privileged few and toward depriving the lowest-paid employees of their jobs. Statistics given in the leading editorial herein show that 58 per cent of M. of W. and 50 per cent of M. of E. employees have lost their jobs since 1929, while the decline in the highly-paid and short-hour train and engine service has been only 37 per cent. With such a result to show for their policies, can the labor unions contend that they have honestly represented the interests either of employees of junior seniority status or of those who receive the lowest wages? If the furloughed workers are to be represented at all, apparently management will have to speak for them, since the unions have abandoned them. And what could managements do of more benefit to them than to insist upon a wage reduction which will make it possible to call at least some of them back to work?

"PURCHASING POWER": President Roosevelt in his "fireside" broadcast last week reiterated the notion, so popular with the labor politicians, that high wage rates improve purchasing power (overlooking the fact that nobody can spend wage rates, but only total wage payments). Meantime New Deal Economist Mordecai Ezekiel was telling an audience up in Pennsylvania that "high prices and high wages are mutually self-destructive." "If wages increase gradually," he continued, "and only as fast as labor efficiency rises, either from technical progress or from nearer-capacity operation, business can pay the higher wages without raising prices . . ." But railway wages have risen out of all proportion to labor efficiency—and the railroads are being used to lower, rather than higher, capacity—neither condition justifying high wages. Politicians and labor leaders try to answer these complex questions by a show of hands, which is like declaring that $2 + 2 = 5$ simply because a group of voters decide they would prefer to have it that way.

ARCH BAR REPRIEVE: The unpopular arch bar truck got a new lease on life last week when the A. A. R. extended to the end of this year the period when cars equipped with this antique gear will be acceptable in interchange, and earn per diem. The "average per diem plan," suspended a year ago, has now been postponed indefinitely while the A. A. R. gives it "further study."

CAR TRADE-IN: Farmer-Laborite Senator Shipstead (Minn.) reports that considerable progress has been made on his plan to have Uncle Sam finance the purchase of 300,000 cars for use by the railroads. The Senator said that the PWA lawyers were a "little leery" as to whether PWA could legally put up the money and were conferring with the RFC to see what assistance might be available there. Dr. Izzy Lubin of the Bureau of Labor Statistics, the Senator says, tells him that the scheme would provide a year's work for 340,000 men.

JULY 20 WAGE PARLEY: The Carriers' Conference Committee was all ready to start the wage discussion with the union leaders in Chicago on June 28, but the latter insisted that it be delayed until July 20—and so it will be. Chairman Enochs of the Carriers Conference pointed out that the railroads had warned the unions last year that a wage rise would mean lay-offs, but the unions insisted on them anyhow.

WHY TRUCKS WIN: Four shippers friendly to the railroads have presented papers, which are published in this issue, telling why they also ship largely by truck. The lack of published schedules of merchandise runs and the independability and slowness of this service is a sore point with one customer. Later loading, smaller units and lower minimum loads and liberal rules for freight mixing were cited by another as truck selling points. Centralized L. C. L. service with all railroads participating, better tracer handling, and transfer en route were urged by a third speaker.

\$35 A DAY: Locomotive engineers on a certain passenger run in the East are working only 10 days a month and are being paid approximately \$35 a day. This is one of a number of specific instances of the extremely favorable wages and working conditions of some train and engine service employees which are cited in a comprehensive analysis of the present wage controversy entitled "Railroads and Railroad Wages, 1938," published this week by the railroads, and from which other excerpts are printed elsewhere herein.

SPECIAL SESSION?: Also in last week's "fireside chat" the President put the quietus on rumors that a special session of Congress might be called to deal with the railroads and other unfinished business. "Barring unforeseen events," he said, no session of Congress will be held until the regular session of the new Congress meets next January.

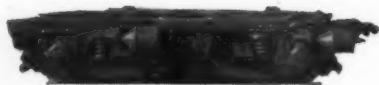
JOB INSURANCE: The President has signed railroad labor's job insurance bill which was high-pressured through the closing days of Congress over the opposition of Treasury officials and the railroads. This act was summarized in last week's *Railway Age*, page 1060.



RAPID DECELERATION

**... a necessity
with faster schedules**

Simplex Unit Cylinder Clasp Brakes play an important part in the operation of modern high-speed trains, such as the "City of Los Angeles" and the "City of San Francisco". They have made possible more rapid deceleration... a factor of vital importance in maintaining faster schedules.



SIMPLEX UNIT CYLINDER CLASP BRAKES

are precision-built . . . for dependable performance.

Simplex Unit Cylinder Clasp Brakes not only effect quick stopping . . . they insure passenger comfort by their smooth, quiet operation . . . they promote safety by their dependable performance.

Simplex Clasp Brakes are a necessity on modern high-speed trains.

AMERICAN STEEL FOUNDRIES

The Week at a Glance

CARLOADINGS: In the June 25 week freight car loadings totaled 559 thousand, down 27 per cent under last year.

CENTURY OF R. R. MAIL: July 7 was the 100th anniversary of the railway mail service, and an illustrated article herein reviews its development—recalling that in 1835 the Postmaster General, a forerunner perhaps of the “Co-ordinator,” suggested a mail car which would have wheels “which can be used alike upon the railroad and the streets of the city.” In 1937 the post office department paid more to air mail contractors than it received in revenues, the ratio being 1.023, whereas railroad mail yielded a huge profit, the ratio of railroad charges to gross being 0.183.

NET 16 MILLIONS: The railroads in May earned net railway operating income of approximately 16½ millions, as compared with 44 millions in May a year ago. For the first five months net railway operating income totaled 45 millions, as compared with 240 millions in 1937.

FORECAST LOADINGS: The Shippers Advisory Boards have forecast freight car loadings for the country as a whole for the third quarter at 19.6 per cent under last year. The various regions show widely different predictions. For example, in the Central Western region, an actual increase of 5 per cent in traffic is expected, while the Allegheny and Northwest regions look for decreases of about one-third under last year's loadings.

B. OF R. T. EXCLUSIVE: The wage discussions between the managements and the Brotherhood of Railroad Trainmen will begin on July 18, two days earlier than those with the other railway labor organizations. It will be remembered that A. F. Whitney quit the Railway Labor Executives' Association some months ago—hence the necessity of providing a separate meeting for his organization.

FARM TRANSPORT AID: The taxpayers are to support a new division in the Bureau of Agricultural Economics, designed to aid farm profits by helping farmers to keep down their transportation charges—involving appearances before the I. C. C. in rate cases and making studies of transportation costs by the various agencies of transportation. The highway interests have their advocates on the public payroll, the waterways have theirs, the coal business has its, the farmers have theirs, but the public servants who have to do with the railroads are, at best, judges—when they are not prosecutors.

DISLOYALTY TO F. D. R.? Is it “treachery” to President Roosevelt, as A. F. Whitney insists (with his tongue in his cheek perhaps), for the railroads to seek a wage decrease when Mr. Roosevelt contends that high wages increase mass purchasing power? The leading edi-

torial herein holds that it is not. In the first place, the railroad industry has sunk to its lowest earnings in history under the economic policies followed by the New Deal administration, and hence owes it no debt of gratitude. Secondly, the weight of opinion of fully 90 per cent of qualified economists is quite contrary to the contention that maintenance of high wages *does* increase mass purchasing power. Hence it would be folly to follow the President's advice to achieve the goal he sets, advice which disregards the opinion of the government's own economists. The President is a great political leader—but it takes only a quick look at the condition of the country today to prove that he is far from omniscient in economics.

FAST MALLETS: The Rio Grande's new 4-6-6-4 single-expansion, articulated locomotives for high-speed freight service for curvature up to 22 deg. and grades as heavy as 3 per cent are described in an illustrated article herein. The engines have a tractive force of 105,000 lb., carry 20,000 gal. of water and 26 tons of coal, and, in working order weigh (engine only) 641,900 lb.

FARE INCREASE: The Commission has heeded the bombardment it received from all sides for substituting its judgment for that of responsible railway managers, and has given the Eastern railroads the 25 per cent increase in coach rates which they sought. It now remains for the public by its patronage, or lack of it, to decide which of the passenger traffic officers are the better guessers—those who supported this increase or those who, though they kept out of the controversy, do not mind saying in private that there is more money in a 2-cent rate than in 2½ cents, and who believe that many an old family jalopy will now do a lot more mileage than it otherwise would have.

WANT TO BORROW?: Chairman Jesse Jones told reporters on Wednesday of this week that the R. F. C. had been looking around to try to find a railroad willing to borrow some of its money, at a low interest rate with liberal collateral requirements, for maintenance work, but so far had found none.

N. Y. GRADE CROSSINGS: New York State is indulging in a Constitutional convention, and a proposal has been made to change the state's fundamental law to exempt the railroads from paying 50 per cent of the cost of grade crossing eliminations now required of them. Milo Maltbie, chairman of the utility commission, who has a considerable reputation as a corporation-baiter to live up to, is opposing the change and has converted Governor Lehman to his viewpoint. Realists, such as Ex-Governor Al Smith and Park Commissioner Moses, however, who actually want to eliminate grade crossings, are pointing out that the railroads cannot be required to spend what they haven't got.

EQUIPMENT \$ AT 2.7%: The Pennsylvania has sold an issue of \$6,330,000 of equipment trust certificates under competitive bidding at a price which will bring the cost of the money to approximately 2.7 per cent.

N. Y. C. LIGHT COACHES: The New York Central recently acquired two stainless steel streamlined coaches for experimental operation, with particular attention paid to interior decoration and other travel amenities. The cars weigh 49 tons unladen and are described in an illustrated article herein.

JIM CROW EMBALMED: The heartrendings of one Westbrook, attorney for Chicago's colored Congressman Mitchell, against the iniquities of Arkansas' Jim Crow law and the Rock Island's efforts to obey it are now preserved in immortal wax. That is to say, on a phonograph record. Centuries hence, human emotions in behalf of the submerged third may once again be quickened to life by the simple device of putting this record on the machine and letting loose again the orator's air waves. To cease beating about the bush—the I. C. C. is experimenting with a phonographic recording of oral arguments, dispensing with stenographers, and that in Congressman Mitchell's attack this week on his Jim Crow treatment was the first to be recorded.

RUTLAND TO QUIT?: Faced by uncompromising union opposition to accepting wages which it can afford to pay, the 413-mile Rutland Railroad may have to cease operation entirely. Indeed, it has applied to the federal court for authority to do so, and a hearing will be held on July 19.

“AGREED CHARGES” WIN: The Canadian Senate has passed, with some amendments, the government's transport bill which authorizes the railroads to establish “agreed charges” by contract with shippers, in lieu of regular tariff rates. This is a device used with considerable success by the British railways in meeting motor transport competition—and is a plan favored by many observers as more effective than regulation of motor carriers in giving the railroads a fairer opportunity in competition.

BONDS BLACKBALLED: Over 3 billion dollars of railroad bonds which formerly were authorized for purchase by New York savings banks were withdrawn from the lists last week by the state banking department. The law has long required that bonds to be on the list of approved investments must earn their interest for five consecutive years—but enforcement of this safeguard has been held in abeyance by a “moratorium.” Apparently despairing of the crisis in railroad earnings being ended within a reasonable period, the legislature put an end to the “moratorium” and the removal of the bonds from the eligible list followed.

WELDED

strikers

draft lugs

center fillers

are permanently tight



Tests at Purdue University have proved this welded construction stronger than standard riveted type.

The welded center-sill construction as Built by Pullman is there to stay.

It eliminates loose lugs which transmit shocks to the car body . . . shocks that were intended to be taken by the draft gear.

It prevents improper swiveling and damage to trucks which are frequently caused by the loosening of riveted center fillers.

This Pullman-Standard construction is in service on over 1000 cars and inspections show that it has eliminated the expensive maintenance and repair work which is caused by riveted designs.

Stronger . . . lighter . . . less costly. Applicable to both light and heavy center-sills.

Covered by Patent No. 2,122,159

PULLMAN-STANDARD CAR MANUFACTURING COMPANY

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San Francisco Sales Representative Latham McMullin, Russ Building

The Week at a Glance

CARLOADINGS: Cars loaded in the week ended July 2 totaled 589 thousand, down 26.6 per cent from last year.

AGREED CHARGES: The Canadian railways' new weapon for meeting competition is described briefly in a news article elsewhere in this issue. There are many safeguards set up in the legislation to prevent new rates from promoting discrimination among shippers—and the plan will not go into effect until "proclaimed" by the Governor in Council (which means until the Transport Minister is good and ready to begin the experiment).

WANTS GRANDPA RIGHTS: The Boston & Maine and its trucking subsidiary have filed briefs of exception with the I. C. C. to an examiner's proposed report, which would deny them certificates under the "grandfather clause" of the Motor Carrier Act, on the grounds that the railroad and subsidiary contracted for the operations in dispute, rather than operating them with their own trucks.

CANADA MERGER: The Conservative party of Canada, meeting last week in Ottawa, voted itself as "unalterably opposed" to the unification of the Canadian Pacific and the Canadian National. Dr. R. J. Manion (the new leader of the party, succeeding Ex-Premier R. B. Bennett) likewise took a crack at the proposed unification—which is being urged by the C. P. R. management, but opposed by that of the C. N. R. and by organized railway labor.

BOILER WATER SAVINGS: The railroads could save \$12,000,000 annually in eliminating corrosion in locomotive boilers if they would give scientific treatment to the 200 billion gallons of untreated boiler water they now use—to say nothing of the savings such treatment would make by putting an end to scaling solids. This is the conclusion reached after careful study by the A. R. E. A.'s committee on water service, reported in an article herein. The roads are spending 19 millions a year on their water service, the report reveals.

SHORT ARM GATES: Crossing barriers, which do not bar the whole highway but only the right-hand traffic lane have been added by the Milwaukee to existing flashing light protection at three crossings near Chicago, and are described in an illustrated article in this issue.

MILEAGE HOGGING: The injustice of allowing some highly paid employees to earn pay for 40 or more "days" of work per month while there are men of long experience at the same class of work who are not permitted to work at all is pointed out in an editorial herein. This practice is not only unfair to the furloughed employees, but it is bad business for the railroads; because it gives a large number of employees high incomes whether the railroads are doing any business or not. Ob-

viously if "days" were reduced when business fell off and increased when traffic improved, all these employees would have greater interest in trying to secure and hold traffic than they now have.

JOBS INCREASE: Employment on the railroads at the middle of June was 914,765, up about 1 per cent from the middle of May. An increase of almost 6 per cent in the number of m. of w. employees brought this improvement—but the showing was still 22 per cent under the number of jobs the railroads provided in June a year ago.

A NEW BRITISH TRAIN: New luxury coaches and dining cars for the London & North Eastern's famous "Flying Scotsman" are illustrated and described in an article elsewhere in this issue. The cars, while specially decorated on the interior, have as exterior finish the company's standard varnished teak.

"PURCHASING POWER": The Southern Railway has just borrowed \$13,500,000 from the R. F. C. which, at 4 per cent interest, will cost it \$540,000 annually. The funds thus obtained will be used for new equipment and, the leading editorial herein points out, probably \$11,000,000 of the total will go to labor. Obviously the \$540,000 the railway will pay for interest will create 20 times as much "mass purchasing power" as if the railway spent the same money in direct wage increases to its own employees. The failure of the labor leaders and New Deal politicians to recognize this elementary economic principle is the reason the depression still persists.

RUTLAND MAY QUIT: Details of the financial plight of the Rutland R. R. are given in an article in this issue. The road is failing by \$2,400 a day to earn its operating expenses and taxes, and the court has ordered a wage reduction which organized employees have so far refused to concede. The road's only hope to continue operation, it would appear, is a loan to tide it over the present lean traffic period—and there appears no likelihood of such an advance being made unless operating expenses (principally wages) are reduced.

N. Y. CROSSINGS: Led by a Republican member (G. R. Fearon) of the N. Y. State Constitutional Convention, opponents of Park Commissioner Moses' plan to have the state pay 100 per cent of grade crossing elimination costs won a victory this week when the railroad share was fixed at a maximum of 20 per cent. The plan as it now stands is for the state to go ahead and eliminate the crossings and then assess the railroads to the extent that "benefit" can be shown up to 20 per cent of the total cost of the work. Conventioneer Fearon based his attack on the Moses measure on an allegation that it would give money to the railroads. About all that grade crossing elimination "gives" the railroads is speedier competition.

1937 FREE RIDES: The railroads last year gave away transportation worth almost 25 million dollars to persons other than their own employees and employees' families, according to a summary released this week by the I. C. C. This is only the total of the "foreign" passes and the transportation given away to government employees and other non-employees. Most of the passes issued were to the roads' employees and families for travel on the home system and are not included in this total.

RR's AS ADVERTISERS: The railroads do more than three-fourths of all the transportation advertising in the big metropolitan daily newspapers. This fact was brought out in an article in "Editor & Publisher" by an air transport executive who sought to show that the air lines are big advertisers in "proportion to their investment"—and undoubtedly they are. But in eight leading cities of the country, the figures disclosed that 76½ per cent of all transportation advertising was done by the railroads, only 16 per cent by the air lines and 7½ per cent by the bus operators.

CONSTRUCTION INDICES: Railroad construction costs in 1937 were 153 on the Bureau of Valuation's index (1910-14 = 100), which was an increase of 10 points over 1936 and of 20 points over the post-war low, which was reached in 1933. The Bureau's indices of construction costs are summarized in an article elsewhere herein.

TRAINING EMPLOYEES: Railroads would do well to inquire thoroughly into the family connections, character, intelligence and views on social questions of prospective employees. This is the conclusion reached (among many others) as the result of a questionnaire sent by a Superintendents' Association committee to 25 railroads and 6 industrial corporations. Good results have been secured from selecting 40 per cent of new employees from college graduates. Little specialized instruction is being provided, it was discovered, on the important business of dealing with the public.

NEW FARES JULY 25: The new 2½-cents-a-mile coach rate will go into effect in the East on July 25. At least two roads are not going to increase their rates (or are avoiding the increase by putting in round-trip rates on the old 2-cents-a-mile basis).

EXPRESS MERGER KICK: The Brotherhood of Railway Clerks has asked the I. C. C. to reopen the case in which it authorized the merger of Southeastern Express with Railway Express Agency, the union alleging that R. E. A. is not taking over Southeastern employees as it agreed to do; and claiming that the merger would result in job loss by "a large number, if not all, employees" of the Southeastern with "undue hardships" for R. E. A. employees.

"COIL-ELLIPTIC"

TRUCK SPRINGS

Lading
Protection



High
Mileage



The car illustrated is one of a series handling highway trailers
between Chicago and St. Paul at speeds up to

65 MILES PER HOUR

"COIL-ELLIPTIC" Springs installed in July 1936

AVERAGE MILEAGE

of these cars with no replacements or any measurable loss of efficiency was

88986

Individual car mileages ranged from 66979 to 115926

THE SYMINGTON-GOULD CORPORATION

Works: ROCHESTER

New York

St. Louis

Chicago

Baltimore

Boston

San Francisco

The Week at a Glance

NO PAY REDUCTION: The so-called "15 per cent wage reduction" proposed by the railroads is mis-named. Actually no reduction in *payments* is contemplated. All the railroads are proposing is to take some of the money now being paid to employees drawing the highest pay in history and divert it to other railroad and railroad equipment employees who are getting no pay at all. It is not pay reduction, but merely a more equitable pay distribution, that the railroads are seeking—as is made clear in the statement of the Carriers' Conference Committee published elsewhere herein.

CARLOADINGS: The July 9 freight carloadings figure was 501 thousand, down 26 per cent under last year.

RAISING AXLE MILEAGE: Tests on locomotive driving axles, described in an illustrated article herein, hold out a hope that present driving axle life of 250,000 or 300,000 miles may be stepped up to 500,000 or even 1,000,000 by following developments which the tests suggest.

CROSSING COSTS 15%: Railroads in New York hereafter will pay for grade crossing elimination only in proportion to the actual benefits they can be shown to receive from the improvement—and in no case will the railroad share be over 15 per cent. That is, this will be the outcome if New York voters approve the new state constitution which they will pass on at next November's election.

JUNE GROSS OFF 20%: Preliminary reports by over three-fourths of the railroads indicate that gross railway revenues in June were approximately 19½ per cent under those of June, 1937.

APRIL ACCIDENTS: Casualties on the railroads in April were materially lower in practically all classifications than in April, 1937, the monthly statement of the I. C. C. discloses. Injured from all causes totaled 2,060 as compared with 2,893 a year ago, while fatalities totaled 297, as against 358.

400,000 JOBS LOST: Because of the decline in railway traffic and the high wage rates they are forced to pay, direct employment by the railways was reduced by 195,000 men in the first half of 1938, as compared with a year ago. By the falling off in railway purchases by a third of a billion dollars, an additional 200,000 men have lost their jobs in outside industry because of railway poverty. But—as the editorial, "Effect of Railway Situation on Purchases and Employment," in this issue points out—carloadings figures indicate that a change in trend seems definitely to have occurred.

WABBLE, I. C. C. WATCHWORD: The Commission's prerogatives and its independence are not *ends* in themselves,

but are defensible only as a *means* toward achieving "adequate and efficient" transportation, the leading editorial herein contends. I. C. C. freedom from "reorganization" by the administration, therefore, cannot be successfully defended unless it can be shown that the I. C. C. proposes to use its great power to advance the public interest in a sound transportation system—and the present condition of the railroads testifies that so far it has not done so. Wobble has been its watchword, as its inconsistent decisions in passenger and freight rate increase cases shows.

WAGE CUT PARLEY: The wage reduction discussions got under way this week in Chicago, with A. F. Whitney protesting a reduction for fear it will cause employed railroaders to "lose their homes." He did not say anything about what is happening to the homes of furloughed employees, who have lost their jobs in order to permit the railroads to pay the highest wages in history to employees with "whiskers" long enough to hold a job.

P. AND S. WINNERS: Awards by the Purchases and Stores Division of the A. A. R. for the two best papers submitted in its annual contest go to James O. Brophy of the Canadian National, Port Mann, B. C., and J. Clark Windbigler of the Katy, Parsons, Kans. The winners will be invited to attend next year's convention of the division.

ROCK ISLAND PLAN: A plan for the reorganization of the Rock Island which would wipe out both the preferred and common stocks and reduce annual fixed charges from 69 million to 1.6 million for 5 years and 2.9 million thereafter has been placed before the I. C. C. by the committee representing first and refunding mortgage 4 per cent bonds and series A 4½ per cent bonds. The plan also calls for spending 22.7 millions on equipment and other improvements.

INVENTORIES DECLINE: The large inventories which the railways piled up last year (reaching 385 million dollars on January 1 this year) are gradually being worked off. On June 1 the total had declined to 356 millions, a reduction of 29 millions. The inventory situation is reviewed, giving tabular data by individual railroads, in an article in this issue.

RAIL BATTER: The fourth progress report of the research being conducted into the causes of rail failures deals with end-batter and end-hardening and is reviewed herein in an article by Professor H. F. Moore of the University of Illinois. Rolling-load tests indicate that end-hardening is an effective method of reducing batter, it has been discovered, *provided the proper hardness is obtained.* The report also gives some preliminary findings on experiments in controlled-cooling.

ROADS SPEND ⅓ BILLION: Despite the current hard times the railroads spent nearly ⅓ billion dollars for materials and supplies, exclusive of fuel, in the first half of the current year. This figure, to be sure, represented a decline of 55 per cent from the expenditures in the first half of 1937—but ⅓ of a billion dollars is still a lot of money, and represents a huge contribution to business activity and employment. Railway purchases so far this year, with comparisons, are reviewed in an article elsewhere herein.

SHORT LINE IDYLL: The current issue of "Fortune" devotes an illustrated article to a friendly description of the operations of the Unadilla Valley, using it as a springboard to plunge into a general discussion of the situation of the short lines as a whole. Freed of union "make work" rules, and with every employee pitching in and doing a day's work and staying close to the people with things to ship, many a railroad can be kept going which otherwise would have to be abandoned.

AGREED CHARGES IN SEPT.: The Canadian roads will have their opportunity to begin the experiment with "agreed charges" on and after September 1, it is predicted by our Ottawa correspondent. Canada's recently-enacted transport bill provides for the beginning of this innovation only after "proclamation" by the Governor-General—but that is just a polite way of saying that the change will come when the Minister of Transport is ready for it.

C. & D. CHARGE: The New York Central and a number of other Eastern roads have filed tariffs discontinuing free collection and delivery service on l.c.l. freight, instituting a charge varying from 5 to 10 cents per 100 lb. for the service, and abolishing the present 5-cents-per-100-lb. allowance made to shippers and consignees who perform this service for themselves.

FORWARDER STATUS: The Interstate Commerce Commission has reversed in part the decision of its Division 5 and has now found that forwarders are not brokers under the terms of the motor carrier act but are common carriers under the common law and that the motor carrier act does not touch them except in the instances where they operate their own vehicles. The Commission believes that the forwarders should be regulated but holds that additional legislation is needed to bring this about.

GOOD WHEAT HARVEST: Wheat tonnage this year is expected to exceed last year's. But it is coming in more slowly because heavy rains have reduced the use of combines and brought out the old-fashioned binders—and occasionally the still more old-fashioned cradles.

Over 70%

"Built by Pullman"



Of all the light-weight passenger cars that have been produced by the Car Building industry for the Steam Railroads during the past five years, 73% have been "Built by Pullman."

Pullman-Standard built the first Streamliner to be operated on American railroads.

Pullman-Standard offers several designs of light-weight construction:

- welded or riveted girder type, high tensile alloy steel.
- riveted aluminum girder type.

- welded truss type with stainless steel sheathing.

In achieving light-weight there has been no change in the fundamental engineering principles that have always insured the safety, comfort and economy of Pullman-built cars.

Pullman-Standard leadership in the production of railway equipment has a background of 75 years of car building achievement.

PULLMAN-STANDARD CAR MANUFACTURING COMPANY

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San Francisco . . . Sales Representative . . . Latham McMullin, Russ Building



"BUILT BY PULLMAN"—an assurance of advanced design and sound construction

The Week at a Glance

JR. EMPLOYEES SACRIFICED:

There are 450,000 railroad employees who have lost their jobs, or who have been demoted or are on part time, who are the real sufferers from the present railroad situation. And no labor leader or "labor loving" politician gives a tinker's damn about these men. The only ones they care anything about are the "old heads" with secure jobs and better pay than they ever had before in their lives. The leading editorial herein analyzes the political and union policies which have been the undoing of the younger employees—and what they can do to defend themselves.

CARLOADINGS: In the July 16 week, freight cars loaded totaled 602 thousand—down 21 per cent under a year ago, but a reassuring improvement over the 30 per cent declines which were being recorded not so many weeks ago.

MEDIATION?: H. A. Enochs, chairman of the railway managements' negotiators in the 15 per cent wage reduction case, told the press on July 22 that "we expect a mediator within 10 days." Whereupon A. F. ("Grumpy") Whitney told the reporters that "mediation has not been mentioned in any of the meetings." When Mr. Whitney agrees with somebody sometime, that will be news.

CHEAP TICKETS IN COACHES:

On last Monday, the day when the higher Eastern coach fares went into effect, the I. C. C. suspended the provision in the roads' tariffs which provided that they would not honor 2-cent tickets after the 2½-cent rate became effective. Passengers who bought a supply of the cheaper tickets ahead of time will thus enjoy the lower rates while their tickets last. The roads can at least thank the I. C. C. that it did not make this ruling known a couple of days earlier—in which event it might have really attracted a crowd of bargain-seeking customers.

60-HR. WEEK ON TRUCKS: The I. C. C. has established 60 hours as the maximum time of weekly duty for interstate bus and truck drivers in common and contract carrier service. The maximum daily hours is set at 10 of actual driving (not just time on duty), after which a driver must have 8 hours' of rest. Sleeper cabs are not proscribed, but the I. C. C. promises to scrutinize them carefully and it has also arranged for scientific tests of driver fatigue—the new regulations being regarded as only an initial regulatory step. Effective date of the restrictions is October 1.

RUTLAND JOBS: One W. F. Burke, spokesman for the organized employees of the Rutland, at last reports was adamant in his insistence that a wage reduction, if any, could be had on the property only through the long-drawn-out procedure of the railway labor act. Meantime the federal court insists that expense reduction

cannot be long postponed—either the outlay has got to be reduced soon or operation stops. Fictitiously high wage rates (fictitious, that is, because nobody is working at them) are preferable to a union leader any day to more reasonable pay which keeps men a work; but the man whose job is at stake certainly can't feel that way about it.

CAPITOL LTD. STREAMLINED:

The Pullman Company is going to streamline the Baltimore & Ohio's all-Pullman Chicago-Washington fleet leader, the "Capitol Limited." The first outfit will be ready early in the fall and the second will follow soon thereafter. The B. & O. standard pattern of streamlining, designed by Otto Kuhler, will be used, with royal blue as the body color, trimmed in black and gray, with lettering in gold.

NEW CLEARING YARD: The Belt Railway of Chicago's reconstruction of its clearing yard to provide for the faster handling of freight is described in an illustrated article elsewhere herein. Retarders have been installed and provision made for longer trains—and extensive use is made of loud-speaker phones and printing telegraphs; and the whole yard has been floodlighted.

RECORD WHEAT MOVEMENT:

In the July 8 week, Kansas City, the nation's largest wheat market, received 9,714 cars—the largest number on record. Receipts over the July 4 weekend also set a record. The railroads are rightly proud of their handling of this record movement without a hitch—a performance growing out of careful advance planning and close co-operation with committees representing the grain trade.

TOLD THEM SO: In addressing the general chairmen of the labor organizations at the wage negotiation meeting last week, H. A. Enochs of the carriers' committee reminded the general chairmen that, when wage increases were demanded last year, he had predicted that such increases could only result in reduced employment; and he called to their attention that this was exactly what had happened.

WESTCHESTER REVIVAL?: Ex-customers of the electric New York, Westchester & Boston, former New Haven subsidiary, which ceased operation at the end of 1937, are still trying to revive operation of the line—and New York's Governor Lehman has consented to appoint an unofficial committee of Westchester citizens to meet with the bondholders to see whether some plan of operation may be worked out. The Westchester is a case study in what happens to a railroad when wages and taxes are high and traffic declines—and the taxing authorities, labor leaders and citizens who want railroad service in other sections of the country ought to become acquainted with and profit by its example.

MILLENNIUM IN MEXICO: The conditions under which the Mexican National Railways have been taken over by the railway unions are set forth in an article on another page in this issue. On the face of it, maybe some railroad investors in this country would be glad to turn over their properties to the unions under similar conditions—because the Mexican government, as owner, gets compensation in a fixed percentage of the gross revenue, and the union-management is prohibited from running up the operating ratio over 85 per cent. That is to say, in Mexico it appears that the railway owner is to get his share under any and all conditions.

COACH REMODELING: The technique of coach remodeling advances all the time—and in this issue it is a Western Maryland project for improving the comfort of passengers which is described. Seating, lighting, lounge accommodations have been completely modernized and air conditioning has been installed—and the article tells how the job was done.

PLATFORM CONVEYOR: A novel method of package freight handling, achieved by attaching platform trucks to an endless chain conveyor, has speeded up outbound express handling at New York's "Inland Terminal" and reduced the costs of the operation. The installation and how it works are described in an illustrated article herein.

TRUCK TRAFFIC: Truck loadings in June were down 17.44 per cent under June of last year, according to the index compiled by the American Trucking Associations.

"TIMES" SUPPORTS US: Last week we published an editorial pointing out the inconsistency of the I. C. C.'s having refused to grant a 15 per cent freight rate increase while it permitted a 25 per cent rise in coach fares in the East. This week the New York Times called editorial attention to the passenger fare decision, saying "that every reason assigned for it applies to the matter of freight rates still more forcibly." This was precisely our contention.

PRESSURE POLITICS: Intelligence could solve the railways' difficulties, Leslie Craven told the Bar Association in Cleveland last Wednesday, but so far only "fear and pressure groups" have been brought to bear on the situation; hence nothing is done, and government ownership or subsidy will be the penalty for continued inaction. Mr. Craven laid part of the blame on "labor royalists" who look as dangerous to him as "capital royalists." Railroadings, he added, is "an old man's business" suffering from "conventional-mindedness." Judge Fletcher urged upon the lawyers that all of the railroad regulatory legislation enacted since 1906 be repealed.

Cut Operating and Maintenance Expense BY USING National Type B (Springplankless) Trucks



NATIONAL MALLEABLE AND STEEL CASTINGS CO

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: Railway and Power Engineering Corporation, Ltd., Toronto and Montreal

The Week at a Glance

CARLOADINGS: In the July 30 week, carloadings totaled 589 thousand, 24 per cent under last year.

JOBS UP SLIGHTLY: At the middle of July there were 929,477 persons employed by the railroads—an increase of 1.6 per cent over the preceding month. But the decline under July a year ago was almost 21 per cent, and in maintenance of equipment the reduction under last year was almost 30 per cent.

TRUCK SIZE PROBE: Some states permit trucks of battleship proportions to batter down their highways. Others restrict such vehicles to less terrifying proportions. The I. C. C. is going soon to invite the state authorities to step in and tell it why they have adopted the particular truck size restrictions, or lack thereof, which they have favored. Under the Motor Carrier Act the I. C. C. is directed to make a survey of this kind—and some of the trucking enthusiasts make no secret of their hope that the power to restrict truck sizes may ultimately be wrested from the states and transferred to Washington, along with other rights and privileges heretofore localized or retained by the citizens.

MONON PLAN: A proposed reorganization plan for the C. I. & L., which would wipe out the stock (control of which is held by the Southern and the L. & N.) has been received by the I. C. C. from Examiner Brinkley.

RUN TO BEEF: The average truck driver weighs 165 lb., is 33½ years old and is 5 ft. 8¼ in. high—their weight being more than 10 lb. greater than that of average men of their age and height. This and other information of similar nature about the man at the wheel of the railroads' principal competitor are disclosed in a recent survey issued by the I. C. C. The drivers run surprisingly long on experience, considering the "newness" of the industry—their average years of service being almost 14.

SANTA FE COAST SERVICE: The Santa Fe's new San Francisco-Los Angeles fast passenger service (buses between San Francisco and Oakland and between Bakersfield and Los Angeles—trains between Oakland and Bakersfield) is described in an illustrated article herein. The service was inaugurated on July 1 and in its first month did a near-capacity business. The service is handled at an over-all speed, including transfers, of better than 45 m. p. h., and the customers pay only 1½ cents per mile.

JR. HELP'S HANDICAP: If wages are so exorbitantly high as to cause unemployment in a manufacturing industry, the "old heads" suffer along with the junior employees. Hence all employees have some incentive to consent to wages and working conditions which will permit their

employer to operate at a normal level. On the railroads, on the contrary, there are jobs for the "old heads" even when the industry is on the rocks—and the older employees (who dictate union policy) thus have no economic incentive to favor wage policies which would enable the railroads to employ more men. The leading editorial herein analyzes this peculiarity of the railroad industry, pointing out that *the interest of junior employees and railway owners is identical*. When the younger employees have jobs, the owners make some money, and vice versa. Policies which will end railway poverty—and such policies alone—will restore the jobs of furloughed railway employees.

UNIT LABOR COSTS: Labor expense per car-mile in 1937 was 33 per cent greater than in 1913; and per loaded car-mile the increase in labor expense was 45 per cent. This, and other significant unit labor cost figures, is revealed in a study just released by the Bureau of Statistics of the I. C. C., and reviewed elsewhere herein. Unit labor costs in freight service declined somewhat from 1926 to 1937, but passenger unit costs increased—while yard costs remained stationary for freight service and rose in passenger service.

MEDIATION: The demand of the railroads for a 15 per cent wage reduction was taken in hand on August 11 by the National Mediation Board—Dr. Leiserson, and Messrs. Beyer and Cook. The railroads asked for the board's services in the case insofar as the Railway Labor Executives Association is concerned, while, for the B. of R. T., both the railroads and President Whitney sought the good offices of the federal peacemakers.

ZEPHYR PRINCIPLES: The underlying virtue in weight reduction is the avoidance of work (that is, economizing the expenditure of energy); while the underlying virtue of the Zephyrs' Diesel-electric installation has been the efficient performance of such work as cannot be avoided—the two principles working together making an ideal engineering combination. Thus Ralph Budd epitomizes the Burlington's experience with 5,000,000 miles of Zephyr operation in a paper published elsewhere herein.

BOX CAR CRITIC: An automobile car on a siding in Connecticut last week bore in yellow crayon the following legend: "A. Failure Whitney"—the handiwork, no doubt, of some skulking Wall Street enemy of labor.

RIO GRANDE PLAN: Examiner Jameson of the I. C. C. would reorganize the D. & R. G. W., eliminating present preferred and common stockholders from any participation—thus making the property independent of further control by the Missouri Pacific and the Western Pacific.

PLOT AGAINST SOUTH?: Uplifter Harry Hopkins of the W. P. A. made a radio speech in Memphis last week in which he portrayed the South as the victim of a plot by other sectional interests—a main feature being a freight rate structure "planned (sic) to clinch the industrial supremacy of the North and East." The whole railroad industry, in a sense, was included in his array of villains, because—so he said—"for every mile of transcontinental track built on the plains, the government gave the railroad company 20 sections of good land. . . . In addition, the government advanced federal money ranging from \$16,000 to \$48,000 per mile." And these railroads, he said, were "so built as to choke off the river traffic and subordinate the advantages of the West and South."

LOW-COST HIGH SPEED: To achieve high speeds without expensive changes in track construction a non-side-rod locomotive with a low center of gravity was considered desirable—so the U. P.'s Electric Engineer Kahler reported in a paper published herein. This low center of gravity is achievable through electric drive, as the company has already demonstrated with its Diesel-electrics; and it now expects to achieve the same result with steam, through the use of turbo-electric power.

UNFAIR TO DIXIE? Following closely on the heels of Harry Hopkins' sharp criticism of the railroads for "discriminating" against the South came this week a further federal blast from the National Emergency (so-called) Council which rapped the "absentee ownership" of the Southern railroads; and accused them of rate discrimination against Southern producers which, it contends, is no longer justified by comparative operating costs.

RUTLAND WAGES: The unions on the Rutland have elected to accept the 15 to 30 per cent wage deductions ordered by the court "under protest," the road and the unions meantime joining the wage negotiations at Chicago. Details of the rather complex situation in the road's negotiations with its employees are given elsewhere herein—together with further information on the shippers' novel plan for stimulating the road's traffic.

PRINTING TELEGRAPH: Wheel reports throughout the D. & R. G. W. system are now being transmitted by printing telegraph—that road's installation of this improvement covering practically all important yards and offices in one program. The new system gives the traffic better information for answering shippers' inquiries, and for diversion in transit—and the more complete advance information now available has reduced yard delays. Details of the installation are given herein in an illustrated article.



CARS designed by **PULLMAN**

... have always met the current specifications of the Railway Mail Service for strength.

●

A check of all light-weight cars that have been Built by Pullman, shows that they also meet the new Railway Mail Service specifications, which have just been adopted, July 20th.

PULLMAN-STANDARD CAR MFG. CO.

CHICAGO • PITTSBURGH • WASHINGTON, D. C. • NEW ORLEANS • CLEVELAND
HOUSTON • BALTIMORE • BIRMINGHAM • NEW YORK • WORCESTER, MASS.

San Francisco . . . Sales Representative . . . Latham McMullin, Russ Building



Since the beginning of its light-weight train development, Pullman-Standard has found it unnecessary to increase the strength of its designs.

The Week at a Glance

CARLOADINGS: In the August 6 week freight cars loaded totaled 584 thousand, down almost 24 per cent under last year.

TRANSPORT CONFAB: The Chamber of Commerce of the United States is sponsoring a conference on transportation problems, to be held in Washington on September 14-15, and to which representatives of the railroads, bus, truck, water and air lines have been invited—as well as a number of important shippers. In calling the conference, President Davis of the Chamber drew attention to the “urgent need” for transport legislation at the next session of Congress.

NO C. & D. SUSPENSION: The I. C. C. has voted not to suspend the tariffs of the New York Central, the Delaware & Hudson, the Boston & Maine and several other Eastern carriers calling for a cessation of free collection and delivery service, and the institution of charges varying between 5 and 10 cents per 100 lb. for handling of l.c.l. between the railroad and the trader's place of business.

TIME THEY KNEW: One hears a lot among railroad employees whose only source of information is the union press of such talk as: “The railroads have plenty of money. The Wall Street crowd has got hold of it—but they'll turn loose of it if they have to.” To correct such dangerous misinformation the Chicago & North Western recently addressed a letter to all employees, giving it to them with their pay checks, relating the actual financial straits of that company: How it has had the cash to meet its payrolls only by diverting depreciation funds and money owed for taxes to that purpose.

NO WHEAT DELAY: Not a single bushel of wheat piled on the ground waiting for the railroads to get around to moving it—that is the record for the handling of this year's crop. Several factors aided the showing—high operating efficiency by the railroads and ample car supply of course. But then the wet weather slowed up the harvesting, and binders replaced combines—so the shippers were not able to dump the whole crop on the railroads within a few days' time and then wonder at the development of some congestion. The methods used by the railroads in the handling of the “bumper” winter wheat crop are set forth in an article elsewhere herein.

MANAGEMENT'S DUTY: In the present wage controversy, there are at stake at least the following interests: (a) Of the public in continued efficient and economical railway service; (b) Of the public in avoidance of a railway strike; (c) Of railway employees who have jobs; (d) Of unemployed railway workers; (e) Of unemployed workers for manufacturers of railway materials and supplies; (f) Of railway investors. As the leading editorial

article herein points out, the railway unions are representing *only* the interests of (c), that is, of railway employees who have jobs. The federal mediators are representing only the interest of (b), that is, that of the public in avoiding a railway strike. All the other interests involved in this dispute—namely that of (a), (d), (e) and (f) enumerated above—*must* be represented by the management negotiators, because there is no one else to represent them. It is a tremendous *moral* responsibility and how management fulfills it may prove a crucial event in the history of the American railroads.

W. P. A. PENSION STUDY: Chairman Murray Latimer of the Retirement Board is trying to get the WPA to assign out-of-work railroad employees to the task of bringing up-to-date the service records of prospective railroad pensioners. The pension chief contends that the plan would help the employees, by enabling the board to act more promptly than it now does on pension applications—and also would provide temporary work for unemployed railroaders. The roads themselves would benefit, he asserts, by getting records done free of cost to them which they are obligated under the law to provide at their own expense.

C. G. W. STOCK OUT?: With a consistency alarming to holders of railway stocks, the I. C. C. has approved a plan for reorganization of the Chicago Great Western which leaves the equity holders holding the bag. The scheme, details of which are given elsewhere herein, would, however, give preferred holders something—to wit, 25 per cent of their present holdings in new common. New capitalization would total \$62,000,000 as opposed to \$134,000,000 at present, and fixed charges would be scaled down to \$850,000. Commissioner Mahaffie dissented, holding that the reduction of fixed charges was insufficiently drastic.

NORTH SHORE STRIKE: Employees of the electric Chicago, North Shore & Milwaukee went on strike on August 15 upon refusal of the receiver to arbitrate a proposed 15 per cent wage reduction and a demand by the Amalgamated Etc. Etc. (the 13-word name street railway union) for a new contract. No attempt is being made by the receiver to operate the property.

MACHINE M. OF W. METHODS: Despite the great advance in the use of machines in maintenance of way work, such developments are only in their “infancy”—according to C. R. Knowles in a paper which is published herein. A machine for making tie renewals, he reports by way of example, is in the experimental stage. The use of machines, he contends, makes m. of w. work more agreeable to employees—and has enabled the railroads to maintain good track conditions under the most adverse circumstances.

TAX MONEY vs. RRs.: The federal “Consumers' Counsel” has issued a call to consumers of bituminous coal, asking them to give him data by which to combat a continuance of present coal rates, when the Ex Parte 115 advances expire on December 31. The tax-paid “Consumers' Counsel's” function, apparently, is to beat down rates, regardless of how just they may be or how badly the railroads may need the money. The coal industry has its paid advocates on the government payroll. So do the waterlines. So do the road builders and the truck operators. So does agriculture. So do the air lines. But, government officials who have to do with railways are not advocates—just judges, detectives, prosecutors, wardens and coroners.

MORE COLD SHIVERS: On top of the New Deal's notion to transfer a good part of the traffic of the rest of the country to the South—and to have the railroads in that section handle it for next to nothing—comes the publicity in the Saturday Evening Post of a new method of raising vegetables in a water tank. The idea seems to be that every housewife will have a kitchen closet which will raise all the garden sass the family requires, about as quickly and surely as the mechanical refrigerator now turns out the ice cubes for the tea. It won't be only the railroads which will lose their shirts if anything comes of this.

“WAGON TOP” CARS: By using a U-shaped combination side post and roof carline member (all in one piece) the B. & O. has developed a “wagon top” box car design which adds 37 per cent to the cubical capacity of cars rebuilt in this manner. The company has 1,300 rebuilt cars of this design and 2,000 all-new cars, employing light weight materials and cushion type underframes—the construction details being given in an illustrated article in this issue.

IT CAN HAPPEN HERE: That a Class I railroad should be abandoned in its entirety might have seemed an impossibility a few years ago—but it is a very lively threat along the western border of Vermont. The citizens of Rutland and other affected communities are fully awake to the calamity which would befall them should they lose their railroad. Their extraordinary efforts to restore the road's dwindling traffic are outlined in an article in the news section herein. Better file this story away for further reference—because Vermont is not the only section which will soon face a catastrophe like this unless the fuehrers of railway labor and the state authorities come to life, and realize that it takes some net earnings to keep a railroad running.

TRUCK RATE MINIMA: The I. C. C. has, three years after the passage of the Motor Carrier Act, at last put a “floor” under truck rates in N. E. and Central territories.

NATIONAL TYPE B

THE IDEAL SPRING-PLANKLESS TRUCK

Original
Modern
Spring-Plankless
Truck

Flexible
Self Squaring
Reduces Rail
and Flange Wear

Advance
Principles of
Design Create
Big Savings
in Operating and
Maintenance
Costs

Oversolid
Spring Protection
No Lost
or Shifted
Springs

Quickest
Wheel Changes
Made without
Dismantling
Main Truck
Members



MANY mechanical advantages embodied in the design and construction of National Type B Spring-Plankless Trucks make them the ideal truck for present day high speed freight equipment.

Large savings in operation and maintenance are the net results of the unique features built into these pioneer spring-plankless trucks over six years ago.

National Type B Spring-Plankless Trucks will save money for your road. Investigate. Details gladly furnished on request.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: Railway and Power Engineering Corporation, Ltd., Toronto and Montreal

The Week at a Glance

CARLOADINGS: For the August 13 week freight cars loaded totaled 590,000—down 24 per cent from last year. Meantime the trucking associations have reported July truck traffic as 16 per cent under that of July, 1937.

CHEAPER BY RAIL: Getting down to an actual study of transportation costs of naval stores to Gulf ports, an I. C. C. examiner has found that rail costs are lower than truck costs, even for comparatively short hauls—and despite the fact that the truck operators are paying their drivers only about \$1.50 a day. The conditions in this particular case are not, however, typical of all classes of traffic in all sections of the country.

COAL RATE PLEA: Citing the roads' need for revenue, the A. A. R. has petitioned the I. C. C. to continue after December 31 the Ex Parte 115 coal rates, which are scheduled to expire on that date unless the roads agree to a revenue pool. The A. A. R. contends that the I. C. C. is without power to require pooling without the consent of all the carriers involved.

RAIL-TRUCK MILK: Milk tanks placed on skids so that they are cheaply transferred from truck to rail and vice versa are one answer to the retention of milk traffic on the railroads which is being tried on the N. Y. O. & W.—described in an illustrated article herein.

WOOD TREATING'S CENTURY: Pressure application of chemicals to timbers to prolong their service life was 100 years old last month and a comprehensive survey of the progress in the art is the leading feature article in this week's issue. Development of wood preservation has leaned heavily on the railways, because the industry has always been—and still is—the principal user of such products. Conversely, the railways are indebted to the wood preserving trade for savings estimated at 150 million dollars annually; and the future holds promising possibilities.

MORE REFINANCE PLANS: The I. C. C. has now placed its stamp of approval on a third plan of railroad reorganization—the lucky company this time being the Akron, Canton & Youngstown. The I. C. C.'s idea is to trim fixed charges for the A. C. & Y. and the North-ern Ohio down to \$180,000.

NO CAPITAL, NO JOBS: The railroads cannot continue in business without an adequate supply of both labor and capital. They could get all the labor they could use at wages considerably lower than they now pay, whereas the "wages" they are paying to capital are insufficient to attract needed new money. Thus the leading editorial herein points out that to preserve the jobs of railroad employees,

it is necessary that a higher "wage" be paid to capital. The issue is not a moral one of how much capital *ought* to get, but rather one of paying it the *minimum inducement* necessary to attract it back to the railroads. Capital won't work for nothing for the railroads any more than labor will—a fact which some of the labor executives are slow to recognize.

INVESTORS TOLD TO SCRAM: A prominent stock exchange house, in a circular addressed to its customers, has predicted an upturn in railway security prices. As traffic improves, this exchange firm foresees the likelihood that revived maintenance expenditures may lag a month or two behind such improvement—thus giving for a month or two some net earnings at a level which cannot be sustained. The firm advises its customers to hold on to their securities until this bulge comes—and then unload and stay unloaded. It bases its advice on the conclusion that no progress whatsoever has been made toward solving any of the fundamental problems of the railroad industry, and hence that it is no place for an investor to put his money if he ever wants to see it again. Maybe A. F. Whitney, George Harrison and their colleagues will tell us how the railroads are going to keep on providing jobs when investors continue in this attitude.

N. W. STREAMLINERS: The North Western's nine new 4-6-4 streamline locomotives are described in an illustrated article elsewhere herein. They are pulling the "Challengers," the "Overland Limited" and the "Pacific Limited" between Chicago and Omaha, handling 10 to 18 cars, and averaging 14,000 miles monthly. Their larger tenders have eliminated three fuel and water stops.

PIERS TO BLAME: The cause of the derailment of the Milwaukee's "Olympian" at Saugus, Mont., in June was the undermining of the piers of the bridge—it has been definitely established. The volume of water—and hence its scouring force—was without precedent, and the pier footings did not extend far enough below the bed of the stream to insure their stability under such conditions.

MOTOR WORM TURNS: Private motorists who are weary of having their self-appointed "spokesmen" serving as stooges for bus and truck operators and manufacturers, now have their own particular organization. "Organized Motorists, Inc." has been incorporated in the national capital, with some very prominent citizens as its officers—and one of the purposes of the organization is to put a curb on the commercialization of the highways. More adequate taxation and strict safety regulation of the highway behemoths are two of the planks in the new organization's platform.

THEY LIKE THEIR RR.: The citizens of Vermont who fear the loss of the service of the Rutland Railroad are not only making "ship by rail" a test of local patriotism, but they have put up \$10,000 in cash money to finance the activities of the Rutland Co-operating Traffic Association.

N. Y. S. & W. BUSES?: The New York Susquehanna & Western would speed up the movement of its commuting passengers between Northern New Jersey and uptown New York by having them de-train at North Bergen, N. J., and ride into Times Square by bus through the recently-completed Lincoln vehicular tube under the Hudson river, according to a plan now awaiting I. C. C. approval. Susquehanna trains now terminate at the Erie terminal in Jersey City, which affords an easy journey by "tube" or ferry to downtown New York, but is not so quickly reached by commuters whose destinations are in the uptown sections.

MOBILE MERGER: Tentative plans for the consolidation of the Mobile & Ohio and the Gulf, Mobile & Northern have been approved by the principal interests involved, and I. C. C. approval will probably be sought in the next month or two. It is reported that agreements have been reached with organized labor whereby employees discharged as a result of the merger are to receive 60 per cent of a year's pay as dismissal compensation—but efforts will be made to keep as many employees as possible, trusting to normal attrition to care for the surplus, if any.

HOME TO ROOST: In the New Deal effort to "purge" Rules Chairman O'Connor in the New York primaries, New Deal Candidate Fay insists that Congress does nothing except under the President's leadership—and he clinches his case by citing Congressional failure to do anything with the railroad crisis. The President dumped the railroads in Congress' lap—and Congress did precisely nothing. If the defenders of Congressional prestige want to block that telling argument against them this fall, they had better get busy.

BERLE BOMBSHELL: In our news pages last week we quoted from the memorandum of A. A. Berle, Jr., to the Monopoly Inquiry in which he spoke of the "decay" of the I. C. C. and looked with a critical eye at some union practices, including their concern for high wage rates rather than security of employment. But he went further than that—into the subject of government subsidies to industries, and in particular drew attention to the tax-supported favors granted to the motor industry. What Berle says is significant, not only because he is a high official in the New Deal, but because he is recognized as one of the foremost students of economic conditions in the country.

A logical development in truck design

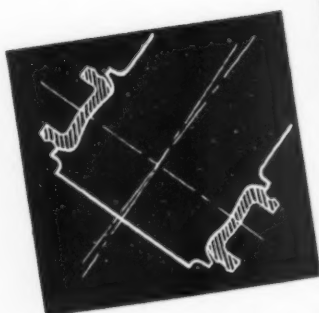


The Self-Aligning Truck was designed to incorporate a spring-plankless feature into a truck construction of recognized and proved value . . . a logical development in truck design.

This was accomplished by a simple and positive engagement of the bolster between the side frame columns, as shown at the left . . . an engagement that at the same time permits angular movement.

The results of this construction are low initial cost, low maintenance expense and the lightest weight possible.

**Over 44,000 Car Sets of
SELF-ALIGNING TRUCKS
have been ordered**



The bolster of the Self-Aligning Truck has large cylindrical surfaces that completely engage corresponding areas on the columns of the frame. This insures long life and safe spring-plankless construction. Lateral angularity is limited by large radial stops.

AMERICAN STEEL FOUNDRIES

The Week at a Glance

STRIKE VOTE: The statesmen who rule the destinies of railway employees have refused to accept a decrease in wage rates, have refused to arbitrate the controversy and have ordered a strike vote to be taken. They and their henchmen, of course, will do the counting of the strike votes. There is "democracy" and "collective bargaining" for you, as it exists in the railway industry!

CARLOADINGS: In the August 20 week, carloadings totaled 598 thousand—down 23 per cent under last year.

NICKEL PLATE INTEREST: The Nickel Plate did not pay on September 1 the interest due on its 4½ per cent series C bonds. The postponement does not, however, constitute a default, as the bond's indenture provides for a six months' "period of grace" during which interest may be deferred.

WHAT CUSTOMERS WANT: The August issue of "Printers Ink Monthly" has an article on the railroads—based largely on interviews with shippers, which makes rather disturbing reading. The shippers by-and-large are found to be keenly desirous of patronizing railway service—but railroad traffic departments, they say, are slow to make necessary adjustments (usually not until after the business has already been diverted to competitors). Promotion by seniority in the traffic department, regardless of whether the men promoted have shown outstanding sales ability, is blamed for this condition. Training in salesmanship—and advancement only on merit—are suggested as remedies.

FARM EXPORT RATES: Chairman Marvin Jones of the House agricultural committee has revealed that New Deal leaders are going to demand lower export rates on farm products. "Industry," said the learned gentleman, "has received reduced freight rates on exports for years, and there is no reason why the farmer should not get the same thing."

C. G. W. DIVISIONS FIGHT: The trustees of the Chicago Great Western have taken another step in their fight to get more liberal divisions on through rates for their road, having asked the I. C. C. to reopen the No. 15234 proceeding on freight rate divisions in Western and Mountain-Pacific territories.

WHO IS "ANTI-LABOR"?: If leaders of any group succeeded in cajoling that group into supporting policies which deprived half of these supporters of their means of livelihood, the group members would be pretty stupid to continue considering these leaders as their "friends," wouldn't they? Never in history have the leaders of railway labor been so successful as they are today in securing the adoption of their high-wage and make-work policies—and never in history have so many of their members been unemployed. The

leading editorial herein points out that *policies which make prosperous and politically powerful labor union leaders are not necessarily the same policies which make prosperous union members.* Railroad employees are advised to be suspicious of all propaganda, from their own leaders as well as from any other parties with selfish interests to forward, and to be guided rather by the opinion of competent authorities who have no ax to grind.

WHAT LOADINGS SHOW: Freight car loadings did not show as much improvement in August as they did in July (when compared with pre-depression figures), but the tendency toward improvement nevertheless did persist. An editorial herein analyzes the car loadings figures for the first eight months of this year in comparison with other depression and pre-depression years. Not much sign of the "more abundant life" in them either.

B. & O. INTEREST PLAN: The Baltimore & Ohio has worked out a plan for interest reduction and deferment of maturities with some of the larger holders of its securities, designed to avoid the necessity for reorganization under the federal bankruptcy act. It was expected that the plan would be submitted to the I. C. C. by the latter part of the current week.

THEY CAN'T THROW STONES: Exterior walls of P. R. R. enginehouses at Columbus and Logansport have been built of glass blocks, experimentally—the installation being described elsewhere herein. The road proposes to determine what building maintenance economies may result by thus eliminating window pane breakage—and what the effect will be on the amount of illumination secured free-of-charge from Old Sol.

LOWER COAL RATES?: The lawyer paid by tax money and assigned to the National Bituminous Coal Commission with the euphemistic title, "consumers' counsel," has filed with the I. C. C. a demand that Ex Parte 115 coal rate increases be allowed to lapse on December 31. The National Coal Association and several other shipping organizations, which apparently believe the railroads are charitable enterprises, have joined the bureaucrats in the same demand.

SHIPPER SOLICITORS: The Rutland Co-operative Traffic Association, which is supported by popular subscription, has hired a traffic manager and has lent him to the Rutland Railroad without charge. Such friendship for the railroad may perhaps save it from abandonment. All the same, the concern now being shown would have, perhaps, been even surer of success had it been shown before conditions became so desperate. And there are other railroads in almost as bad a fix as the Rutland where neither the employees nor the shippers have yet shown any realization of the situation which confronts them.

JULY NET UP: Net railway operating income in July was 38 million dollars, or 37 per cent less than in July, 1937. Nevertheless, July earnings, low as they were, represented a sharp improvement over preceding months of the year to date—net railway operating income for the seven months' period, for instance, having been 70 per cent under the same period last year. Gross revenues in July were 18 per cent below those of July last year, as compared with a decrease of 21 per cent for the 7-month period.

TRUCK SIZE PROBE: The I. C. C. has sent the governors of the 48 states a questionnaire in which the local prefects (as we believe governors are called in countries where the central government does the ordering and the local governments do the obeying) are asked to set down in detail what restrictions they place on the size and weight of motor trucks—and to state whether they consider these restrictions adequate, and why or why not. The governors are also required to outline the history of restrictions on motor vehicle sizes and weights, recording the changes that have occurred and explaining why these changes were made.

BRITTLE BOILERS: Cracking of boiler shells on locomotives operated under water conditions ordinarily considered good is one of the subjects investigated by the A. R. E. A. in its study of Boiler Pitting and Corrosion, the report being summarized herein—indicating that further studies are necessary because the cause and remedy of this condition have not yet been conclusively demonstrated.

PENSION BOARD ROW: The railroads cannot agree among themselves whom they want for their representative on the Railroad Retirement Board. The A. A. R. has nominated M. Roland Reed, superintendent of motive power of the P. R. R. Eastern Pennsylvania division, but the Short Line Association has asked President Roosevelt to re-appoint James A. Dailey, board member, whose term expired on August 28. Mr. Dailey was formerly secretary of the New York Central pension board.

HASTINGS BETTERMENTS: To reduce delays to trains at Hastings, Neb., while engines are serviced and crews are changed the Q has extended a second main track through that terminal and installed interlocking over a 3-mile stretch, the installation being described in an illustrated article in this issue.

AGREED CHARGES: Effective September 1, the Canadian railways are permitted to make "agreed charges" with shippers—that is to say, they may serve as "contract carriers" as well as common carriers. The plan is one whereby the British railways have retained or regained a considerable volume of competitive traffic—but no great results are to be expected overnight.

THE IDEAL TRUCK FOR MODERN FREIGHT CARS



THE outstanding characteristics developed by National and incorporated in the Type B Spring-Plankless Truck have proven the best for seven years, placing it in the lead as the ideal money saving truck for modern equipment.

Its basic simplicity of design, founded on the elimination of the spring plank and arrangement of the springs has produced a truck that provides for the quickest wheel changes, is flexible and self-squaring, easy riding, and less costly to maintain.

Provide your cars with National Type B Spring-Plankless Trucks and benefit by their exclusive features.



Complies with all A. A. R. requirements

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: Railway and Power Engineering Corporation, Ltd., Toronto and Montreal

**NATIONAL
TYPE
B**

The Week at a Glance

CARLOADINGS: In the August 27 week, cars loaded totaled 621 thousand—down 21 per cent from last year.

STOOGES FOR WHITNEY?: George Harrison has fallen down as the "white hope" of both the railroads and their employees in the promise he gave of leading them to co-operate in meeting their common problems. The editorial article herein points out that Mr. Harrison has apparently been jockeyed into his recent demagogic anti-railroad position by A. F. Whitney—who, by repeatedly accusing the genial George of over-friendliness with the railroads, has baited him into his "whiskers-from-yesterday's-shave" attitude. Smart tactics, when you can maneuver a rival into saying exactly the things you want him to say. Disneying a Snow White into a Donald Duck, so to speak.

BESLER DIESEL: Electric motors driving all truck wheels, with power supplied by four Diesel-electric generating units are the outstanding characteristics of a 760-hp. switcher built by Davenport-Besler Corporation and described in an illustrated article herein.

B. & O. INTEREST PLAN: Details of the plan proposed by the Baltimore & Ohio for postponing maturities and reducing its fixed charges, without the necessity for resorting to bankruptcy proceedings, are given in a news article elsewhere herein. The plan—if okayed by the I. C. C. and the security holders—would reduce fixed charges from 31 millions to less than 20 millions.

S. P. RELOCATION: Uncle Sam will relocate 36 miles of the Southern Pacific between Redding and Delta, Calif., in connection with the construction of the Shasta dam and reservoir. About two years will be required for the job, which includes also the moving of Western Union telegraph lines which occupy the railroad right-of-way.

SMOKE DAMAGE: The harm done by smoke in large quantities to metals and concrete is clearly demonstrated by experience at Chicago Union Station—which poses a ventilation problem of unusual severity. In four years 750 tons of cinders and soot have collected in the chamber designed for that purpose—and the problem of corrosion to building materials and ventilating equipment has been tackled, details being given in an article elsewhere herein.

BILLINGSGATE: "Dear Sir and Brother—You Cur"—such would seem to be the customary salutation from one railway labor union leader to another if the correspondence we publish elsewhere here-

in be typical. The "sirs and brothers" and their mouthpiece, "Labor" have called *Railway Age* and its editor a lot of harsh names, but however low they rate us, it is Mount Everest itself compared to the feelings they cherish for each other. We dislike to print such language in the chaste pages of this journal—but it were a greater evil to conceal the utterance of such sentiments by the gentlemen who refuse to give the railroads "the whiskers from yesterday's shave." And besides—how the boys can dish it out!

STRIKE THREAT: A man "sits" as many risks as he "runs," as Thoreau said, and the risk the railroads will run of a strike if they insist on wage reductions is not as bad as the certain disaster which awaits them if they continue to pay present wage scales. The leading editorial herein urges that the favorable public sentiment which the railroads have built up is not really worth anything unless it can be counted upon for support in offering resistance to the stiff-necked attitude of the labor leaders.

16 MILLION RED: After the deduction of fixed charges, the Class I railroads were in the red approximately 16 million dollars in June, as compared with a black figure of 18 million for June last year. For the six months the red ink total was 181 millions, as against 39 millions in the black for the first half of 1937.

ON THE CARPET: George D. Brooke, president of the Nickel Plate, was called before the Stock List Committee of the New York Stock Exchange on September 7 to explain why the road had informed the Stock Exchange on August 1 that it would pay interest due on September 1—and then, a day or two before the "dead line," announced that the interest would not be paid. Mr. Brooke explained that the August 1 letter was sent to the Stock Exchange as a matter of routine established by the habit of many years, and that a letter by him on July 23 announcing an extension plan for the road's notes made it clear that the road would have to be reorganized under the Federal Bankruptcy Act unless the extension plan were successful.

EXPRESS RATES: At the hearing in New York on September 7 on the proposed revision in freight rates, a large perfume manufacturer stated that the changes would permit a large part of that firm's traffic to move once more by rail, whereas most of it was now being given to competing forms of transportation. The truck lines apparently entertain the same idea of the proposed new rates, to judge by the vigor with which they are opposing them.

BRITON ON M. OF W.: American roadmasters and other maintenance officers will learn of some of the differences between British and American maintenance practices when, at their convention in Chicago on September 21, they will hear an address on this subject by W. K. Wallace, chief civil engineer of the London, Midland & Scottish.

MRS. R. ON RATES: Mrs. Roosevelt has come out in favor of a reduction in southern freight rates. Everybody in the government, except those persons whose job it is to regulate rates, seems to have definite and expert knowledge on this question.

"FACT FINDING": The Railway Labor Executives Association expects to complete by September 26 the strike vote it is taking on the refusal of the union leaders to accept a wage reduction. In the event that a strike is called, it must be held in abeyance until a "fact-finding" committee is appointed and reports (which will take 30 days). So no sharp crisis is likely to occur until the beginning of November, if then.

HOLIDAY TRAFFIC: Passenger traffic in the New York area over the Labor Day holiday—when usually everybody with a dollar to spend decides to do so away from his own neighborhood—was not so good this year. Low-fare enthusiasts would gladly attribute the decline to the recent increase in coach rates—but apparently the air and bus lines and river steamers did not do any land-office trade, either. There was even less congestion than was expected in private automobile traffic.

TRANSPORT CLINIC: The session being sponsored by the U. S. Chamber of Commerce (at Washington on September 14-15) to try to develop a "co-ordinated transportation program" promises to draw a good crowd of big names. A baker's half-dozen of railroad executives will be there, together with leaders of subsidized transport agencies—highway, water and air. The assembly will be rounded out with some social-minded shipping representatives, a couple of professors and several banking and insurance executives.

EXPORT GRAIN RATES: The railroads are still discussing among themselves proposals to reduce rates on export grain. The eastern roads met in Chicago on the question on September 1, but (according to A. A. R. President Pelley on September 7) at the time of going to press, the matter was still in the discussion stage. However, it was learned that traffic officers had been in consultation with the I. C. C. on the matter of filing short-notice tariffs, in the event that a reduction is agreed upon.



The handling of A. S. F. Roller Bearing Units follows standard railway practice.

Applied and removed like plain bearing wheel and axle assemblies.

Wheels turned without disturbing or protecting roller bearings.

Can be applied to existing equipment.

Wheels changed without removing roller bearings. Ordinary wheel presses used.

Being an integral assembly, the A. S. F. Roller Bearing Unit is easy and inexpensive to maintain.

AMERICAN STEEL FOUNDRIES

The Week at a Glance

CARLOADINGS: In the September 3 week revenue cars loaded totaled 648 thousand—down 19 per cent from a year ago.

LOST VEGETABLES: The railroads handled 350,000 fewer carloads of perishable traffic in 1937 than they would have, if they had retained the same proportionate share that they enjoyed in 1931. Such is the contention of the Bureau of Agricultural Economics, which lays the loss of traffic on bad market facilities, for railroad shippers, most of such markets being off-line; and upon wasteful inter-railroad competition. Details of the bureaucrats' free advice to the carriers are given in the news section herein.

NORTH SHORE RUSTS: The strike on the Chicago, North Shore & Milwaukee has simmered down to a scrap between the Amalgamated Etc. Etc. (the trolley car union) and the standard railway unions—each faction threatening sympathetic strikes on other carriers if the North Shore recognizes the rival union group. Meantime, the North Shore's customers are habituating themselves to other means of transportation and the weeds are growing in its unused tracks—a monument to labor union "statesmanship," 1938 model.

DIESELS SOUTH: Diesel-electric locomotives will pull the Seaboard's "Orange Blossom Special" when it makes its inaugural run for this season in December. And instead of cutting out S. A. L. power at Richmond, as heretofore, the Diesels will handle the Blossom right into Washington over the R. F. & P.

PENSION FUND GROWS: The pension tax payments by the railroads and their help up to August 10 had totaled 176 millions and the Retirement Board had paid out 96 millions to pensioners (spending almost 5 millions for the board's own expenses).

COLONIAL STATION: A station of moderate size, which follows the colonial motif so appropriate to its location, was placed in service a number of months ago by the Boston & Maine and Central Vermont at White River Junction, Vt., and descriptive details are given in an illustrated article herein.

A BARGAIN STRIKE: If, in a nation-wide strike, the railroads should suspend operation entirely, they would lose only a little more than \$1,000,000 a day in excess of what they actually did lose while operating the railroads in the first six months of the current year. That is to say, as the leading editorial herein points out, *the railroads are already so unprofitable that a complete suspension of operation would cost them less today than at any previous time in history.* In contrast with the million dollars a day that railroad owners would lose by a strike, strik-

ing employees would lose nearly 5 million dollars a day in wages. The entire railroad industry is headed for bankruptcy and government ownership as it is anyhow—and the proposed wage reduction is the only means at hand to save them. The editorial concludes that the comparatively slight cost of a strike makes a course of action involving that risk far more attractive than any alternative which the railroads could choose.

JR. EMPLOYEES' CHANCE: Bearing further on the possibility of a strike, the editorial article herein points out that if, instead of suspending operations in a strike, the railroads should decide to continue in service, there have never before been so many skilled employees out of work as there are today—most of whom would be glad of the chance to establish themselves once more in good jobs. The "old heads" have forced the junior employees off the payroll by their "mileage hogging" and other "grab it all" tactics—and they have no valid claim to any sacrifice by these younger employees of an opportunity to get steady jobs for themselves.

NEW "HIAWATHA": The Milwaukee's popular "Hiawatha" will get its third new outfit of equipment in the little over three years of its existence on September 19 when 35 new cars are delivered by the road's shops to its operating department. The equipment replaced will be used to improve accommodations on other of the company's trains.

TRANSPORT CANVASS: Fifty or more big names in all forms of transportation were in session at Washington as this issue went to press—in an endeavor to arrive at program with regard to the industry upon which there can be general agreement. The parley is being conducted under the auspices of the U. S. Chamber of Commerce, and Chamber President George H. Davis is presiding. The press is excluded from the sessions, but a committee of the participants is seeing the reporters—and has disclosed that the first work of the conference has been to see to what extent it will go along with the A. A. R. legislative program. A new rate making rule, in particular, was discussed. Appointment of a small committee to report back to the conference is a probable outcome.

FREE BUS MEALS: The Ohio Greyhound bus line is putting buses in service between Detroit, Mich., and Charleston, W. Va., which not only are air conditioned, but which will offer the customers free meals, served by personable hostesses. Built-in toilet facilities will eliminate the so-called "comfort" stops, and the buses will make a schedule of 38 m. p. h., or 10 hours overall (rail time is about 9½ hours).

WPA PENSION PROBE: The WPA has started its cumbersome machinery into operation to hire about 15,000 furloughed railroaders, putting them to work bringing railroad pension records up-to-date. In the news pages herein the preliminary steps taken in this direction are related—A. V. Vallandigham, on leave from his post as assistant to comptroller of the D. & H., being in charge of the project.

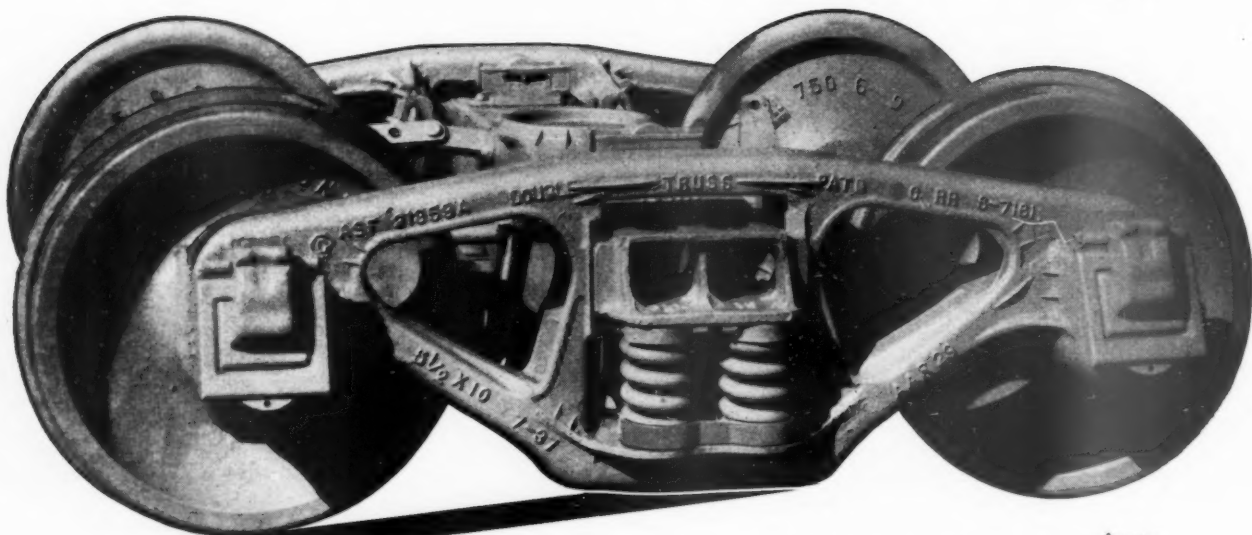
SMOOTHER RIDING: Elimination of vibration by a change in wheel coning, by mounting wheels independently on trucks and by more scientific springing, are some of the suggestions for greater passenger comfort suggested by research on the British railways. Sir Harold Hartley, vice-president of the London, Midland & Scottish, relates his studies into this and other means of luring the passenger by offering him a higher degree of comfort, in a paper published elsewhere herein.

LOW RATE BOOSTS TRAVEL: The S. P.'s "Daylight" between Los Angeles and San Francisco has been doing a steadily increasing business—and particularly since coach fares were reduced to 1½ cents per mile on July 1. In July and August the average daily patronage was 1013 daily (508 southward and 505 northward), as compared with an average of 695 carried in both directions daily in the first 12 months of the new train's service.

TRUCK RATES: At the I. C. C. hearings on Middle Atlantic truck rates in New York this week, a truck witness told of raising rates well above railroad rates on many bulky commodities. The trucks, he explained, don't want such traffic anyway. The railroads apparently—as far as the truck operators are concerned—can have all the empty cans, the lamp-shades, the canoes and the fluffy cotton products; and the trucks will handle the heavy-loading, remunerative business. There, in a nutshell, you have the "inherent economic advantages" of truck transportation—and why it appears cheaper than the rails for some commodities.

SUPTS. PUBLIC OPINION: Public relations have been defined as the sum total of every contact by every employee of an industry with every member of the outside public. From this point of view, it is obvious that a friendly feeling toward a railroad cannot be created by one man or a department in charge of "public relations" acting alone—but can come only when every employee constitutes himself a "public relations committee" and acts as such in all his public contacts. Thus the division superintendent, as the officer closest to the actual job of operating the railroad, has important "public relations" functions to perform and to supervise, and a report published herein sets them forth.

A logical development **in truck design**

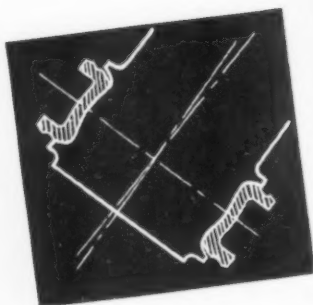


The Self-Aligning Truck was designed to incorporate a spring-plankless feature into a truck construction of recognized and proved value . . . a logical development in truck design.

This was accomplished by a simple and positive engagement of the bolster between the side frame columns, as shown at the left . . . an engagement that at the same time permits angular movement.

The results of this construction are low initial cost, low maintenance expense and the lightest weight possible.

**Over 44,000 Car Sets of
SELF-ALIGNING TRUCKS
have been ordered**



The bolster of the Self-Aligning Truck has large cylindrical surfaces that completely engage corresponding areas on the columns of the frame. This insures long life and safe spring-plankless construction. Lateral angularity is limited by large radial stops.

AMERICAN STEEL FOUNDRIES

The Week at a Glance

CARLOADINGS: In the September 10 week, revenue car loadings totaled 569 thousand, down a little less than 20 per cent under the Labor Day week a year ago.

6 DIESEL TRAINS: The Southern has ordered four and the Alabama Great Southern two, Diesel-electric trains. The trains will be of two cars, the first car containing the power and providing space for "head end" traffic, and the second car being an air-conditioned coach.

RICHBERG ADVISES: A friend who did not identify himself sent us a copy of the August, 1937, issue of the B. of L. F. & E. Magazine, in which he marked a speech made by Donald Richberg to the B. of L. F. & E. convention last year—and around this speech the leading editorial in this issue is written. Mr. Richberg told the firemen of the inability of the railroads to pay high wages, merely because employees would like to have high wages—and emphasized the necessity for some return to capital, if an employer is to continue giving jobs. The strange part of all this is that Mr. Richberg's view, which the unionists applauded, is precisely that which we have been expounding in the *Railway Age*, and for which the union leaders and the union press continually berate us.

MILWAUKEE LOCOS: The new C. M. St. P. & P. streamlined 4-6-4 locomotives for passenger service are described in an illustrated article herein. Following in a general way the design of the resplendent "Hiawatha" locomotives, the new power embodies a number of innovations. For one thing, the new engines are coal-burners. A particular feature of interest is the cab, which excels in the effort made to enlarge the window space and improve natural visibility.

WALTER ON CAR LINES: Luther Walter has asked the I. C. C. to investigate the mileage charges levied for the use of refrigerator cars owned by railroads and railroad-controlled car lines. He already has a petition pending before the Commission in which he is seeking the re-opening of the case covering divisions of joint rates for the handling of perishables—and he wants the rentals the intermediate carriers pay for reefers proved too. He cited a case where C. G. W. gross revenue on a perishable shipment was \$2,500, out of which it had to absorb \$280 in switching charges and pay \$900 for car rental.

HIS OWN NEST: A member of the *Railway Age* staff commuting into New York last week was handed by a trainman, in uniform and on duty, a pamphlet entitled "Why the Railroad Workers Should Not Take a Wage Cut." The screed bore the imprint of the B. of R. T. and contained the statement that the railroads in the last few years had spent

"more than \$190,000,000" for "propaganda." The leaflet accused the railroads of "corrupting" professors and teachers in schools and colleges and of falsifying their financial and other reports to the government and to their investors. And while the kind of a man who distributes such calumny, on company time and on company property, is drawing good railroad money, many a railroader who bears loyalty to his industry is left out in the cold.

F. D. R. NOT MANAGEMENT: The grape vine has had it that President Roosevelt is going to "settle" the railroad wage controversy. An editorial herein points out that the legal authority of the President goes no further than the appointment of a "fact finding" board. If he actually has more authority than that, then we have government management of the railroads. If we have government management, then the government should assume responsibility for a return to the owners of the railways. On the other hand, if we do not have government management, then it is the duty of private managements to put into effect the wage reduction, under the terms of the law, because to date no other method has been suggested of meeting the legitimate claims of railway owners.

FIGURES DON'T LIE: Our esteemed contemporary "Labor" announces triumphantly that Retirement Board figures show the average railroad employee receives only \$1,115 in annual wages. This average is arrived at by dividing the total number of employees who worked even as much as a day during the year, and includes over 100,000 employees who drew less than \$10 in wages for the year—and who worked only a day or two. If "Labor's" average of \$1,115 is correct, then it would be just as true to say that "annual wages of over 100,000 railroad employees in 1937 were less than \$10." We are surprised that "Labor" hasn't made that contention, but give them time.

C. OF C. PARLEY: The national transportation conference, which met last week under the auspices of the U. S. Chamber of Commerce, concluded its initial session by appointing a committee of 17 of its members to draft a complete program to be reported back to the entire conference later in the fall. The committee of 17 will hold its first session in Washington on September 30.

GEORGE IS MAD AGAIN: Meantime, George Harrison has let out a blast at the transportation conference, asserting that it was called "for the purpose of propaganda" and that "its theme song was that money is more important than men." Not more important, George, but still pretty important, because the railroads can't operate and can't pay wages unless they have some money—and the real purpose of the transportation conference is to find, if possible, some way for them to get it.

AUGUST GROSS: Gross revenues of the Class I roads (to judge by reports received from about 80 per cent of them) were off about 13 per cent under August of last year.

STOKER DELAY: The I. C. C. has postponed from October 1 to November 15 the effective date of its order requiring automatic stokers, pending the outcome in the federal court for Northern Ohio of the lawsuit of the B. of L. E. against the railroads.

FLAT SLAB BRIDGES: A parallel bridge project of the Lackawanna and the Erie at Binghamton, N. Y., involved some novel problems (which were given novel treatment) as an article herein relates. One of the unusual features was a joint detour trestle used by both roads while construction was in progress.

MILWAUKEE CARS: 35 light-weight, ultra-modern passenger cars, to be used largely to replace those heretofore in service on the streamlined "Hiawatha," are illustrated and described in detail in an article in this issue. These cars represent the third new "outfit" for the Milwaukee's famous train in the approximately three years of its existence—considerably more up-to-the-minute than the average private motorist succeeds in being.

RAIL PRICES CUT: The Chicago and Pittsburgh plants of the Carnegie-Illinois Steel Company on September 19 established new prices on steel rail and track fastenings, representing appreciable reductions under the present prices which were established in March of last year, and which represented increase of about 15 per cent above the level of prices prevailing at that time. The new price of rail is \$40 per gross ton—as compared with \$42.50 heretofore.

FROM GENERAL TO SPECIFIC: Such was the course charted by President Roosevelt's new railway committee-of-six (three railroad executives and three labor leaders), which the White House had hoped would proceed to frame recommendations for a solution of the general railroad problem while the wage-cut detail of that broad problem took a normal course through strike votes and Emergency-Board proceedings. It developed at the committee's first meeting, however, that the wage controversy, which the President regarded as only one aspect of the general railroad problem, was nevertheless an aspect of sufficient importance to keep the labor-union members "so fully occupied during most of October" as to preclude until "a date later to be fixed" their conferring with the railway members on any general program for the rehabilitation of the railroads. Thus is labor adhering to its policy of non-cooperation on other matters during the pendency of the 15 per cent wage cut proposal.

PULLMAN

ALL-WELDED UNDERFRAMES

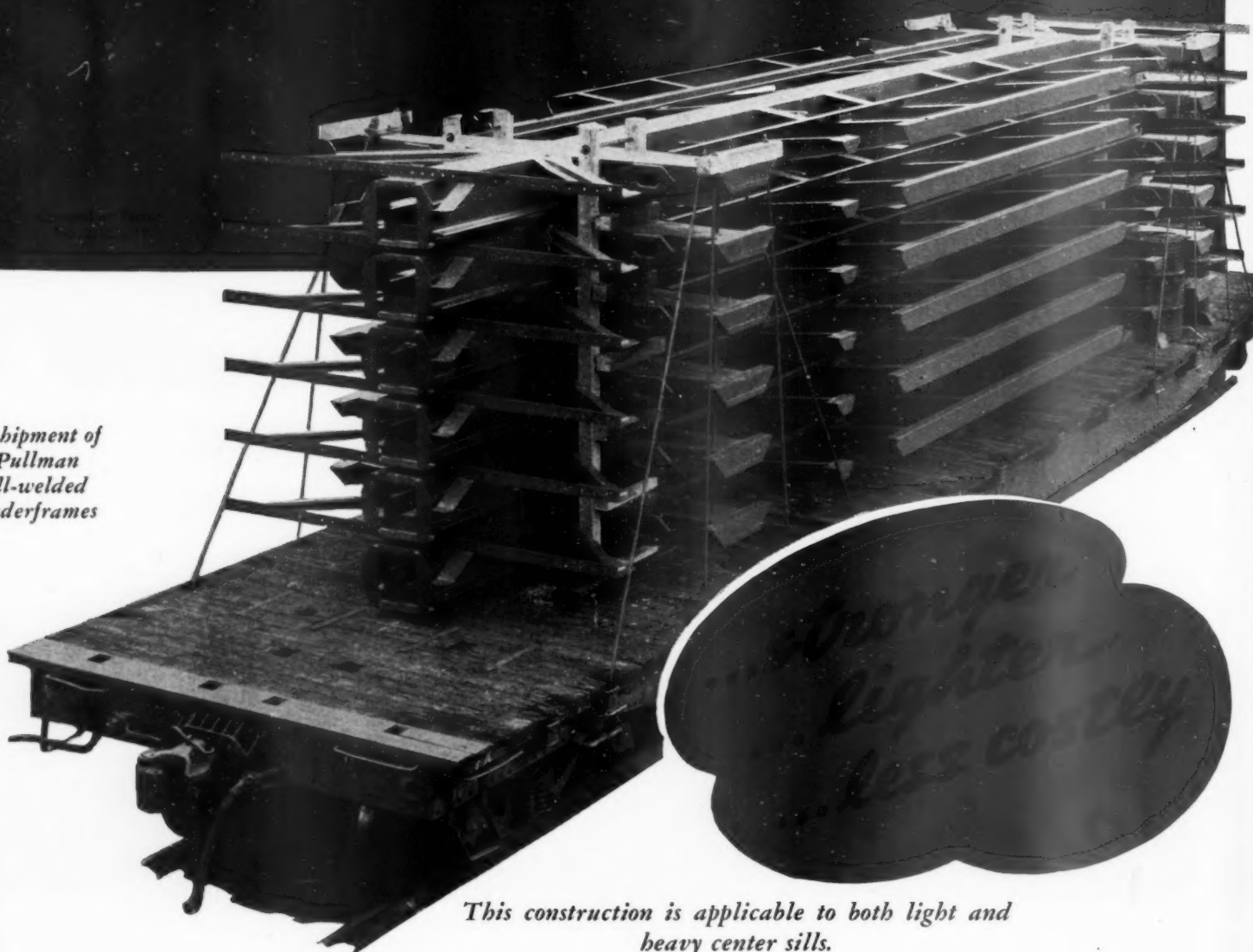
in service
over 1000 cars

During a period of over 20 years, all welded freight car underframes designed by Pullman Standard have been applied to more than 1000 cars. Careful inspection during this all-welded underframe construction have indicated that these underframes are stronger than standard riveted type.

have eliminated some standard riveted underframes and some light weight riveted underframes to car body. In the Pullman Standard freight car underframes, the welded underframe and fabricated center sills are formed by welding and secured by bolts. Pullman University tests have indicated that these all-welded underframes are stronger than standard riveted type.

PULLMAN-STANDARD CAR MANUFACTURING CO.
CHICAGO • PITTSBURGH • WASHINGTON • NEW ORLEANS • LOS ANGELES • SEATTLE
KANSAS CITY • ST. LOUIS • NEW YORK • WHEELING, W.VA.
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A shipment of Pullman all-welded underframes

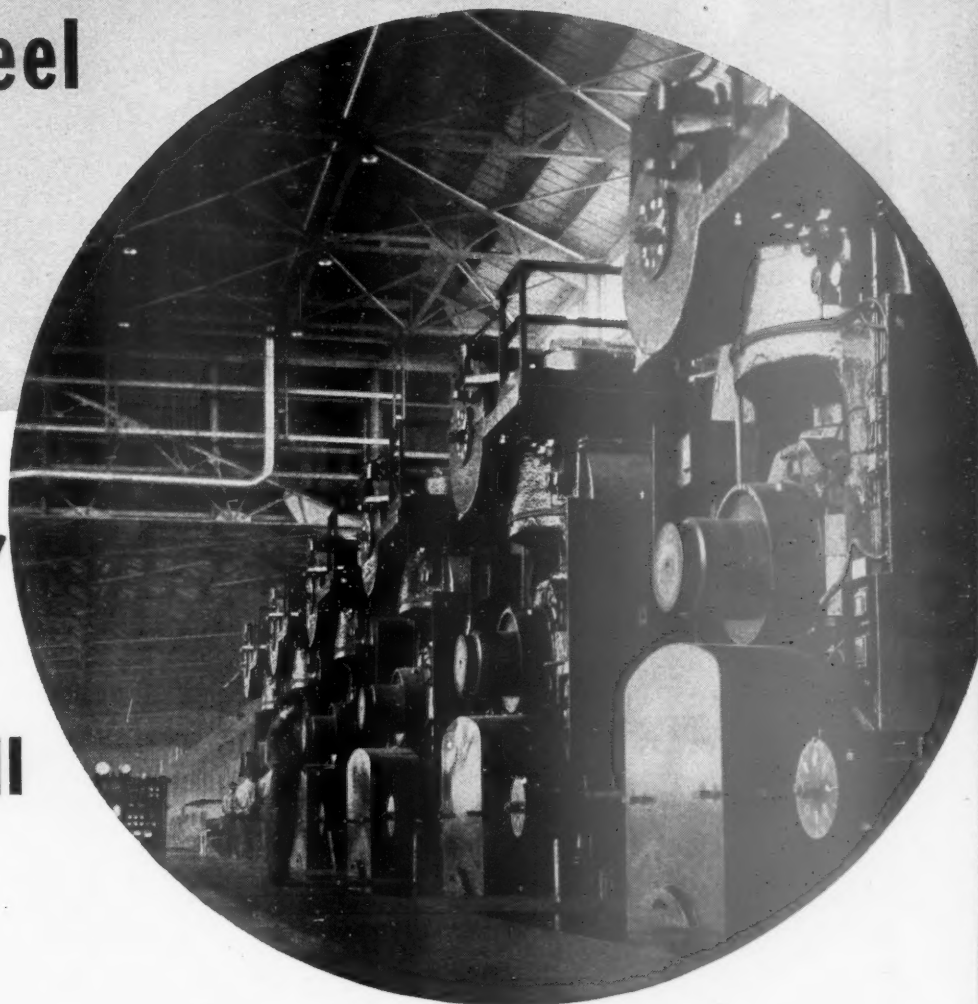


*Stronger
lighter
less costly*

This construction is applicable to both light and heavy center sills.

Inland Completes Flat Rolled Steel Construction Program...

with
NEW 44"
Continuous Mill



FOR more than ten years Inland has been designing and building an ideal modern plant for the production of all kinds of sheets and strip.

Ten years ago flat rolled steel accounted for about 25% of the steel industry's total production. Today, with increased uses in the building field, including the rapidly growing air conditioning market, as well as in many manufacturing industries, sheets and strip total about 50% of the total amount of steel tonnage produced.

Inland was preparing, not only for this growth of tonnage, but also for the many more specialized requirements which sheets today must meet.

New furnaces and laboratories were installed. An entire galvanizing plant was scrapped and re-

placed with new and improved equipment. One of the country's first wide continuous rolling mills was installed in 1932. The climax of this modernizing program has been reached this year with the installation of the world's highest speed mills, capable of producing a mile of steel a yard wide in 2½ minutes.

Modern in every respect, equipped with amazingly efficient devices for systematic control over all operations, this new plant is now complete and at your service. You will find in the higher quality of Inland Galvanized, Copper-Alloy and other sheets the means of eliminating many problems that commonly are encountered in sheet metal work.

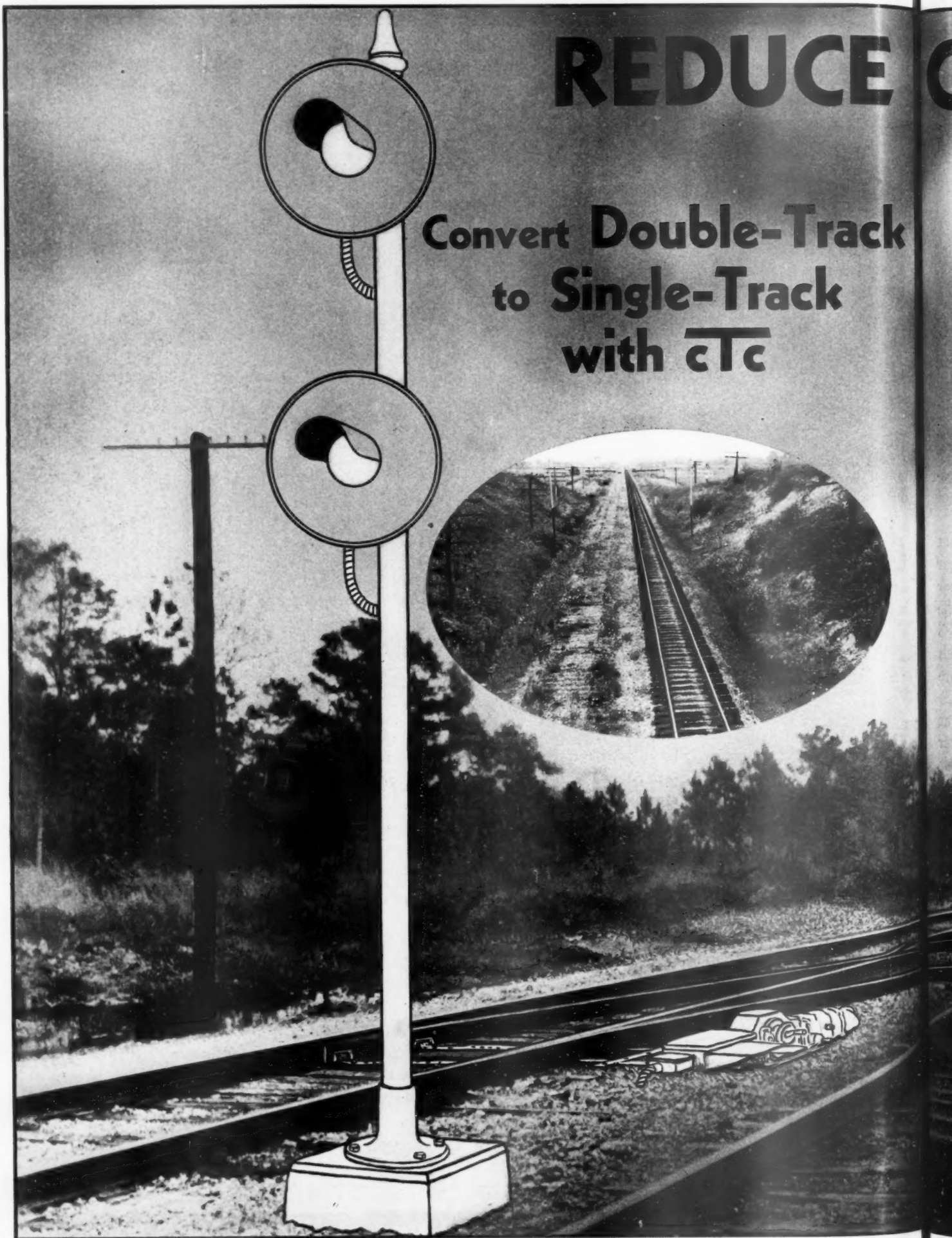
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Sheets Strip Tin Plate Bars Plates Floor Plates Structural Piling Rails Track Accessories Reinforcing Bars

REDUCE

Convert Double-Track
to Single-Track
with \overline{cTc}



OPERATING COSTS

Outstanding economies can now be effected on certain double-track sections by reverting to single-track operation supplemented by **G-R-S Centralized Traffic Control** — in all cases, rail and ballast replacement and track maintenance costs are reduced; while, in many cases, also, taxes are reduced. Usually, too, interlocking plants may be eliminated to further decrease expenses.

Studies show that the salvaged track materials will pay a large portion of the change-over and **CTC** system costs.

G-R-S Bulletin 169 describes the many operating advantages of Centralized Traffic Control.

The nearest G-R-S District Office is available for complete information, and if desired, a detailed study.



GENERAL RAILWAY SIGNAL COMPANY

New York

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With Men Who *Know* WROUGHT

Under normal 50/55 ton freight car service, U-S-S One-Wear Wrought Steel Wheels give you

1. 150,000 MILES OR MORE OF SAFE SERVICE
 2. PROTECTION TO LOAD AND ROLLING STOCK
 3. FEWER DERAILMENTS AND DELAYS
- at a cost of only 10c per 1000 miles!

IF you inspected 500 freight car wheels on the line every day, it wouldn't be long before you acquired some definite convictions about wheels. You would soon find that there is a very important difference between one-wear wrought steel and inferior freight car wheels. It wouldn't take you long to discover that only rarely is it necessary to "shop" a car because of defective steel wheels.

Car inspectors tell us that at least 90 per cent of all one-wear wrought steel wheels in freight car service stay under the car for the full life of the wheel. And U-S-S One-Wear Wrought Steel Wheels have a proved average life of more than 150,000 miles.

So long is the mileage that you get with U-S-S One-Wear Wrought Steel Wheels, that it brings the cost of service down to approximately 10 cents per thousand miles . . . considerably less than the cost of service even with ordinary low-grade wheels.

No other freight car wheel gives you more miles of service . . . or

U-S-S WROUGHT

A Good Car Inspector saves his road incalculable sums of money each year, by locating trouble *before* it happens. Inspecting from 400 to 500 freight car wheels every day makes him a competent judge of wheels. This inspector tells us that 90 per cent of all U-S-S One-Wear Wrought Steel Wheels used in freight car service stay under the car for the full life of the wheel. The number removed for causes other than long wear is almost negligible.



UNITED

Freight Car Wheels... *it's* STEEL *Every Time!*

comparable safety to both load and rolling stock... or equal freedom from costly derailments and delays. No other wheel gives you all these advantages at any cost. Yet this wheel brings them to you *at actual savings in wheel costs.*

If your railroad has not already adopted the one-wear wrought steel wheel for freight car service, here is an opportunity to improve wheel performance and at the same time reduce wheel costs. Ask one of our Wheel Engineers to call and give you complete facts.

CARNEGIE- ILLINOIS STEEL CORPORATION

Pittsburgh and Chicago

Columbia Steel Company, San Francisco,
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STEEL WHEELS

12 Years Old and still good for plenty of safe mileage. The four U-S-S One-Wear Wrought Steel Wheels on this box car truck have all been in service more than 12 years. They have travelled about 102,000 miles (assuming an average service of 8500 miles a year). Yet the gauge shows 5/16 inch of tread metal remaining above the condemning limit, or *more than half the service metal still left in the wheels*—and flanges still in excellent condition. Every day these inspectors see more proof for U-S-S Wrought Steel Wheels.



STATES STEEL

RAILWAY EXPRESS AGENCY

Bought the **FIRST** Cab-over-Engine

INTERNATIONAL

They NOW own 290



WHEN you ship by express you get fast service because Railway Express Agency knows the hauling business. They bought the first Cab-Over-Engine International ever built. And now they own 290 of these trucks in their fleet of *more than 600 Internationals*.

Indisputable *proof* of the highly dependable service and low maintenance cost of International Trucks is found in the simple fact that Railway Express has added 400 new Internationals to their fleet this year!

Two famous symbols of speed and service ride on these great trucks—the well-known Diamond of Railway Express and the Triple Diamond of International Harvester. Wherever these trucks go

the nationwide network of the world's largest company-owned truck service organization is always at the service of Railway Express. And at the service of every International owner!

It will pay you to apply the experience of Railway Express to the hauling problems in your business. Your hauling may be the same kind as that of Railway Express. Or it may be very different. But you can bank on this: *Internationals will do the same kind of profitable hauling for you.*

Get a demonstration now. International sizes range from ½-ton delivery to heavy-duty 6-wheelers.

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)
180 North Michigan Avenue Chicago, Illinois

INTERNATIONAL TRUCKS

IT'S HERE!

VITALIZED AIR CONDITIONING

FOR RAILWAY PASSENGER CARS

*Adds to the pleasure and
healthfulness of railway travel
makes possible worthwhile economies*



CONDITIONING OF AIR for passenger cars so that it will have a pleasing, mellow quality . . . rather than a sharp, shocking coldness . . . has always been the goal in railway air conditioning. With the introduction of Sturtevant "Railvane" SprayType Washers an important step forward in this direction was made.

Now, with the development of the new Sturtevant *Wet-Bulb* Thermostat, auxiliary controlled, another important advance has been made. Sturtevant *Automatic VITALIZED* Air Conditioning is here!

In a nutshell, Sturtevant Vitalized Air Conditioning provides conditioned air containing certain vital and comfort qualities usually associated with air from the outdoors. It makes possible the circulation—automatically—of 100% outdoor air under auxiliary wet bulb temperature control, without overloading existing mechanical refrigeration apparatus. It also makes possible worthwhile economies in operation and maintenance.

It means:

1. Air washed with cleansing water sprays . . . removing dust and dirt.
2. Air mellowed to a more uniform temperature and humidity—to avoid shock to passengers.
3. Reduction in odors usually associated with "stale" cars.
4. Evaporative Cooling - and material economies in ice consumption, on cars equipped with ice water cooling systems.
5. Less frequent starts and stops of existing mechanical refrigeration equipment, with probable reduction in maintenance expense.
6. Air Sterilization—either by the action of the water sprays or by the use of ultra-violet rays when the water sprays are not in operation.

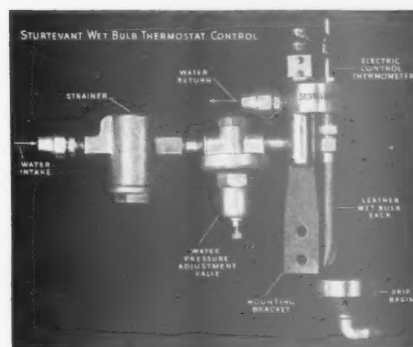


Sturtevant "Railvane" Units or Systems are used by 37 railroads. "Railvane" Air Conditioning is protected by 30 issued patents and other patents pending.

Sturtevant
Puts Air to Work

Investigate this important step forward in Railway Air Conditioning. Our nearest office will gladly supply complete information.

THE KEY TO VITALIZED AIR CONDITIONING



One of the most important Railway Air Conditioning developments of the Sturtevant Research Laboratories—a positive, accurate, rugged Wet-Bulb Thermostat for regulating fresh-air. It is located in the outside air-intake opening of the passenger car.

This thermostat control permits circulation of 100% outside air when weather permits—automatically—and without overloading existing mechanical refrigeration apparatus.

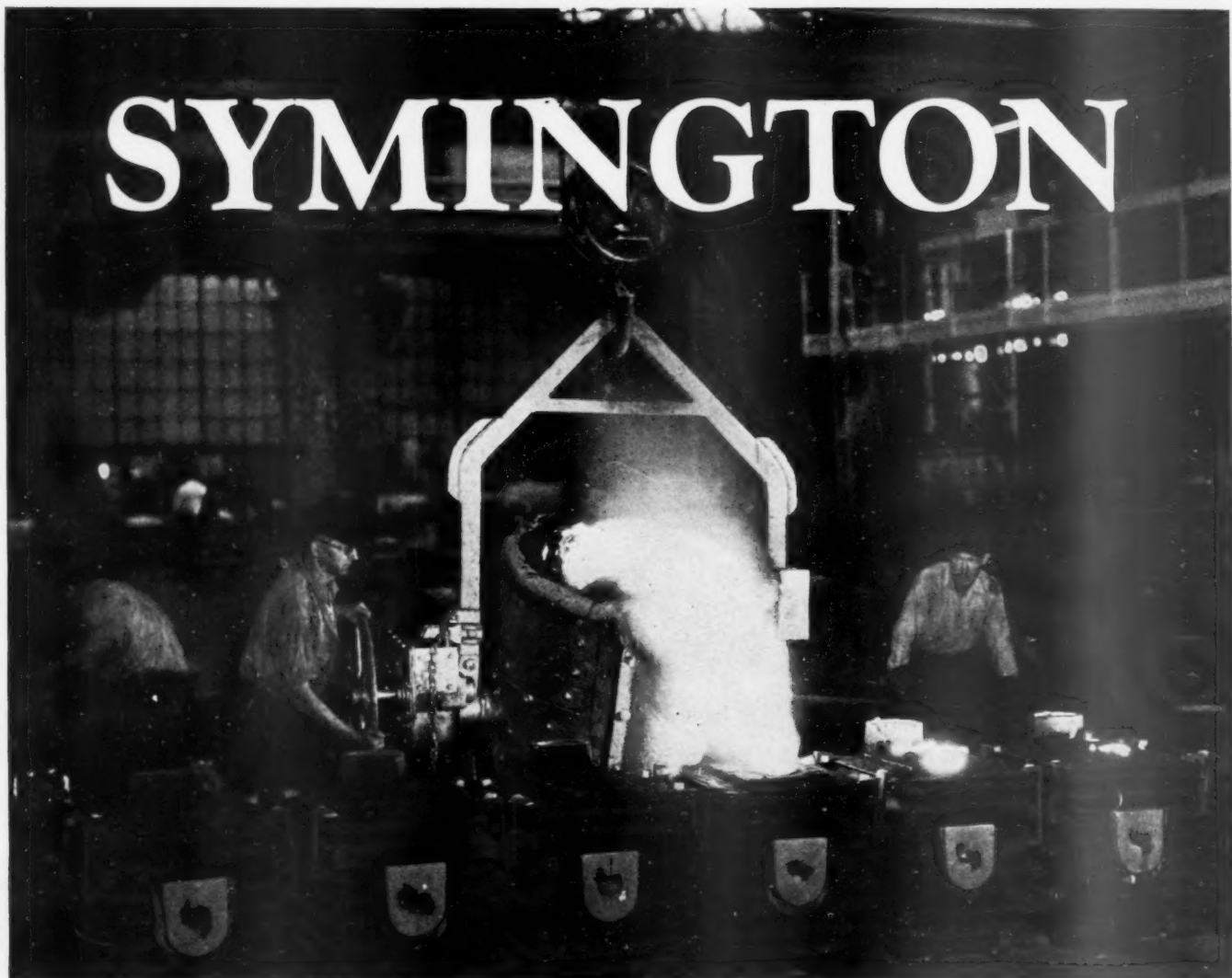
1. By providing satisfactory regulation of evaporative cooling, it makes possible economies in ice consumption on cars equipped with ice-chilled water spray type air conditioning systems.
2. It reduces maintenance of existing mechanical refrigeration apparatus by reducing the number of starts and stops of this equipment.

This new Wet-Bulb Thermostat has been in operation on conditioned passenger cars through an entire summer season and has given utmost satisfaction.

B. F. STURTEVANT COMPANY
HYDE PARK, BOSTON, MASS., Branches in 40 Cities
B. F. Sturtevant Company of Canada, Ltd.
Galt, Toronto, Montreal

FOR 27 YEARS...PIONEERS IN AIR CONDITIONING





SYMINGTON

JOURNAL BOXES

STEEL — MALLEABLE IRON — SEMI-STEEL

OF ALL TYPES

TIGHT-FITTING **LIDS** ARTICULATED

THE SYMINGTON-GOULD CORPORATION

Works: ROCHESTER

New York

St. Louis

Chicago

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Boston

San Francisco

IN HOW MANY PLACES BESIDES TRACKS

do you use

PRESSURE-TREATED TIMBER



1. PILING: WPC piling is fully protected by pressure treatment with creosote against decay, marine borers and the destructive chemical action of sea water.



2. CULVERTS: On many installations, this type of culvert, built of WPC pressure-treated timber, has proved more economical than any other kind.



3. POLES AND POSTS: Pressure-treated poles, cross arms and posts give added years of trouble-free service. The Wood Preserving Corporation has complete facilities for framing before treatment.

OTHER PRODUCTS AND USES FOR PRESSURE-TREATED TIMBER

- 6. Station Platforms . . . 7. Trestles . . . 8. Bridges . . . 9. Water Tanks . . . 10. Crossing Planks . . . 11. Cross Arms . . . 12. Car Stock . . . 13. Structural Timber . . . 14. Fences . . . 15. Cooling Towers . . . 16. Third Rail Ties and Guards . . . 17. Flumes . . . 18. Trench Lining and Covers

Ask us for information on additional Koppers products and services

Thousands upon thousands of miles of track prove the value of pressure-treated timber for cross ties. And railroads, first to realize its advantages and standardize on its use for cross ties, are finding many new ways in which pressure-treated wood can save them money. Adequate stocks maintained by The Wood Preserving Corporation assure prompt shipments to meet exacting requirements.



4. CRIBBING: Cribbing lasts longer when it is built of pressure-treated creosoted timber. Facilities for pre-fabricating are available at all plants of The Wood Preserving Corporation.

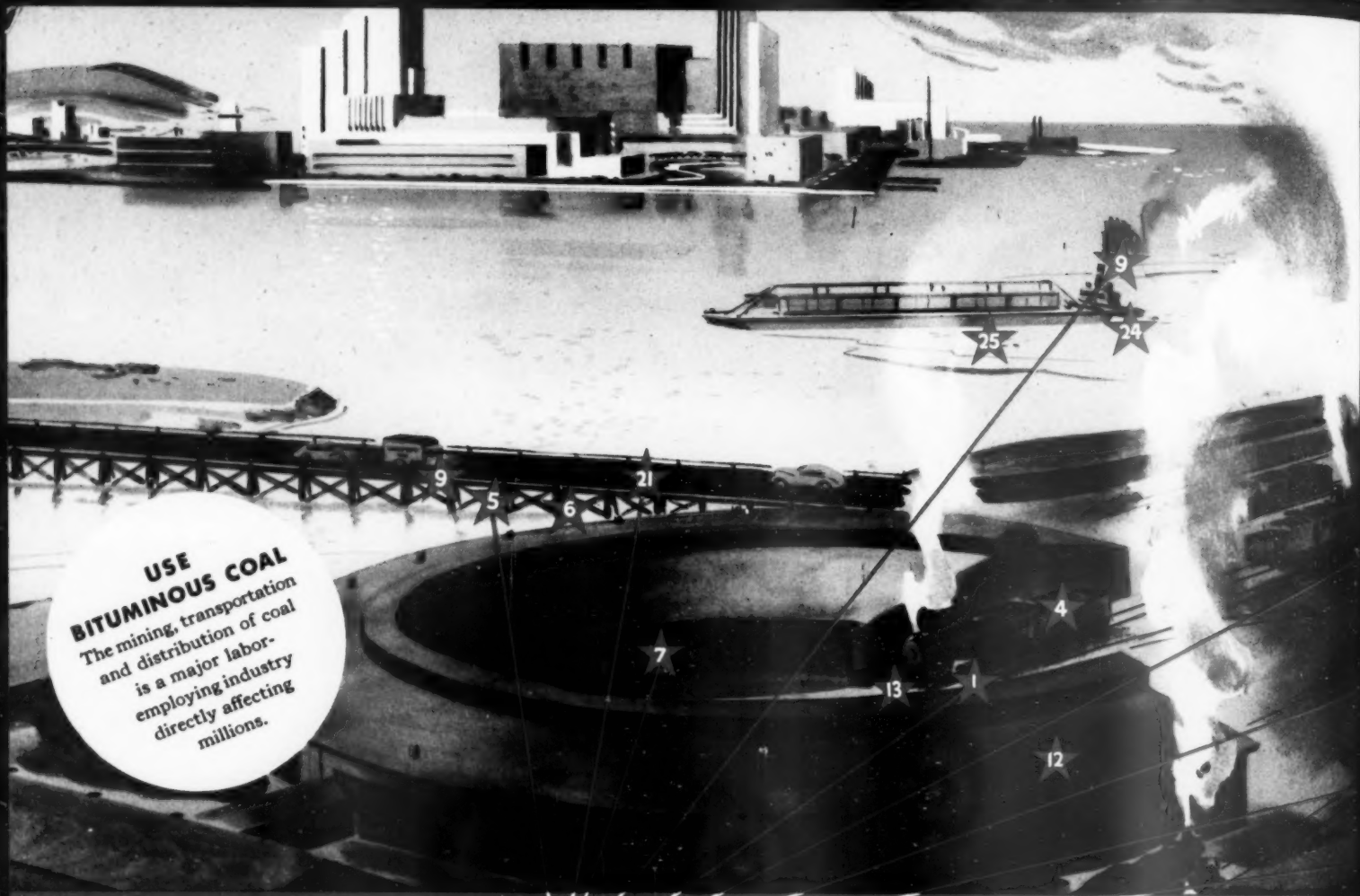


5. PIERS, WHARVES: Timber that is alternately wet and dry should be pressure treated with creosote to protect it against decay

THE WOOD PRESERVING CORPORATION

PITTSBURGH, PA.

a K O P P E R S subsidiary



USE BITUMINOUS COAL
The mining, transportation and distribution of coal is a major labor-employing industry directly affecting millions.

IN HOW MANY OF THESE PLACES DO YOU USE KOPPERS PRODUCTS?

and a restoration in savings, always has been understood by everybody. That they also were to realize the use of capital for production employment is now becoming really clear. In the case of Koppers Company, this may be illustrated by the fact that the 1937 season showed an increase in production over the 1936 season and an increase in the number of employees. This is more than 10 per cent of the full-time year-round average per cent of the average total number actually employed by these companies during 1937. It is equal in other words, to one and one-half months per year for all employees.

21,024,000 Tons of Freight Shipped By Rail By Koppers Group

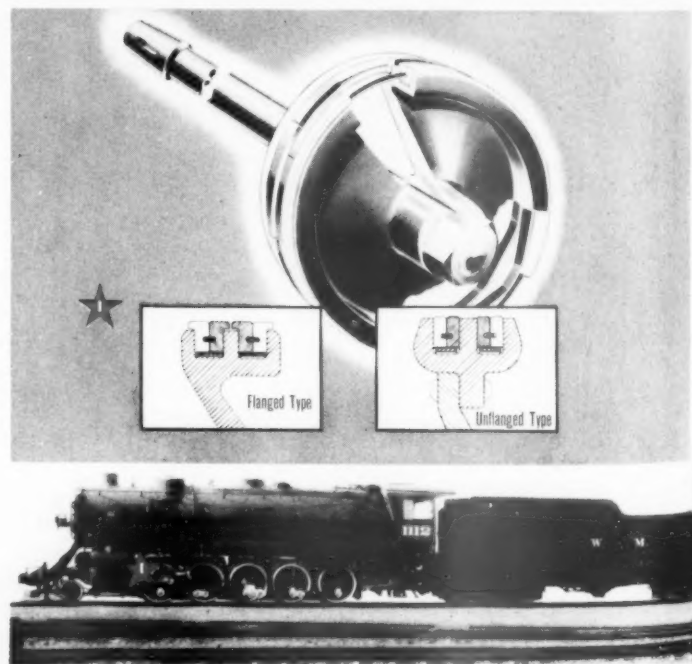
A total of 21,024,000 tons of rail freight were shipped by and for Koppers Company, its subsidiaries, and its principal affiliates, in 1937. Rail shipments approximated 489,000 carloads, with the freight charges totaling \$46,423,000. Railroads participating in this movement numbered 340. They carried more than 300 different Koppers commodities to every state in the Union and into Canada.

New Products Add Diversification, Meet Changing Demands

In common with other corporations and other industries, Koppers Company has had to meet frequent and rapid changes, not only in the general business picture, but also in individual markets and with regard to specific products and services.

The management always has recognized the need to keep abreast of changing trends and demands through constant investigation and experimentation in the laboratory and in the field. With there is a high degree of cooperation among Koppers producers and markets the Company also has been successful in the distribution of production and distribution.

BECAUSE of the bulky character of most of their products, as well as because many are reshipped after conversion, Koppers Company and its associates are major users of the country's transportation facilities.



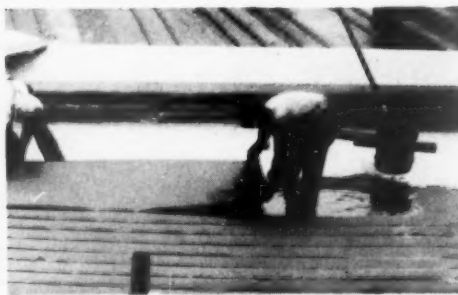
★ **AMERICAN** Bronze-Iron Sectional Cylinder Packing reduces the wear on both rings and cylinder. Bronze segments seat quickly, smooth and burnish the cylinder wall. The cast iron segmental rings are "slow wearing" against the polished surface of the cylinder and the restraining feature keeps the wear uniform on both the bronze and iron segmental rings.



★ **TIME** is an important factor in the proper air-seasoning and treatment of railroad cross ties, lumber, poles and piling. Because of this, it is wise to place protective orders now with The Wood Preserving Corporation to insure you a full supply of seasoned material for immediate and emergency use when needed.



★ **ROOF** leaks on railroad warehouses are serious affairs, because they may lead to heavy damage claims. This danger can be avoided if you use Koppers Coal Tar Roofings. They are not affected by water and they have a property known as "cold flow" which enables them automatically to seal up any small breaks or cracks which may occur in the roofing.



4. Koppers Coal 5. Pressure-treated Poles, Piling, Posts 6. Pressure-treated Structural Timbers and Bridge Timbers 7. Coke 8. Waterproofing and Dampproofing 9. American Hammered Piston Rings 10. D-H-5 High Tensile Bronze Castings 11. Iron Castings 12. Bituminous-base Paints 13. Bituminous-base Front-end Paints 14. Coal Handling and Washing Plants 15. Creosote 16. Western Fire Hydrants 17. Insecticides 18. Disinfectants (including Stock Dips) 19. Deodorants 20. Weed Killers 21. Tarmac Road Tar for Paving 22. Tanks, Tankwork, Pipe, etc. 23. Fast's Self-aligning Couplings 24. Repair and reconditioning of bay, coastwise and ocean vessels 25. Car Floats and Ferries 26. Western and Michigan Valves and Sluice Gates

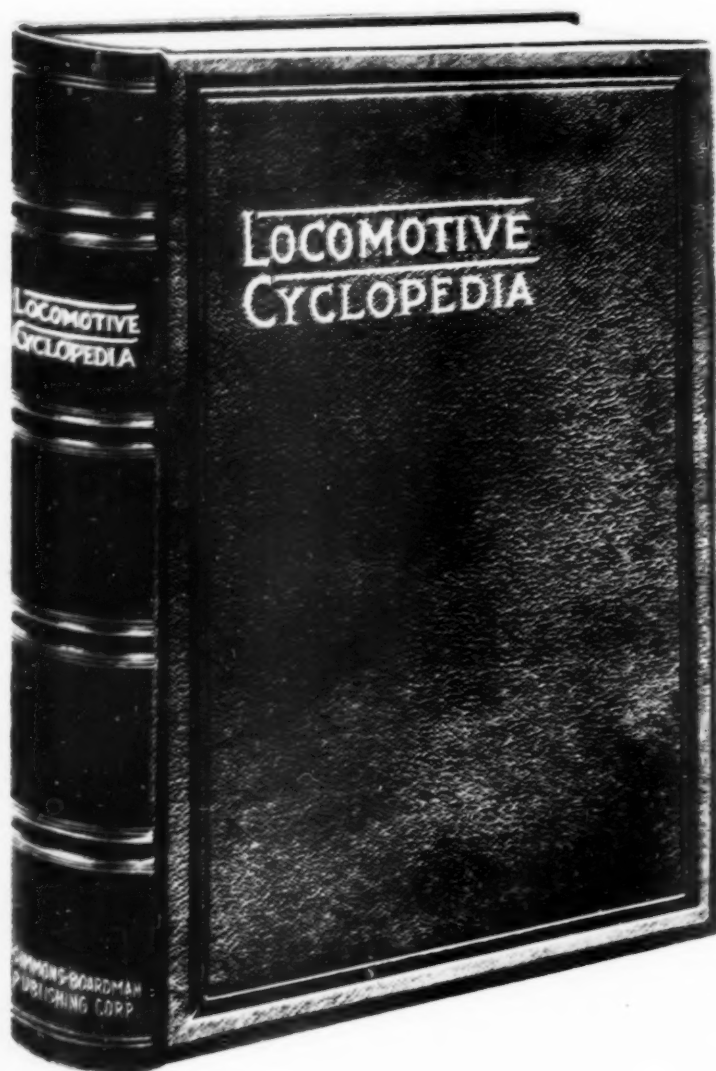
Drawn for Koppers Company by Alex Ross

KOPPERS DIVISIONS, SUBSIDIARIES AND AFFILIATES SERVING THE RAILROAD FIELD . . . The Wood Preserving Corporation, Pittsburgh, Pa. • Tar and Chemical Division, Pittsburgh, Pa. • The Koppers Coal Company, Pittsburgh, Pa. • New England Coal & Coke Company, Boston, Mass. • Bartlett Hayward Division, Baltimore, Md. • American Hammered Piston Ring Division, Baltimore, Md. • Western Gas Division, Fort Wayne, Ind. • The White Tar Company of New Jersey, Inc., Kearny, N.J. • The Maryland Drydock Company, Baltimore, Md. • Gas and Coke Division, Pittsburgh, Pa.

KOPPERS

Ready October 15th

Locomotive Cyclopedia of American Practice



THE new edition is being thoroughly revised and brought up-to-date with the cooperation of an advisory committee appointed by the Mechanical Division of the Association of American Railroads. A vast fund of information on motive power and its equipment, locomotive shop and engine terminal tools and equipment, data on standard practice and official specifications will be brought together in one volume. American types of steam, electric and Diesel-electric locomotives, including many built for industrial and foreign railroads will be shown with a few outstanding European locomotives.

The Shop Section in the new edition will be much enlarged. New and Improved types of labor-saving machine tools and other shop equipment will be illustrated. Chapters in this section will cover The Locomotive Shop, Shop Repair Systems, Analysis of Locomotive Repair Work, Work of the Machine Shop, Other Shop Activity, Material Handling, The Engine-house, Economies of Tool Replacement.

TWENTY-ONE SECTIONS

Dictionary of Locomotive Terms—Steam Locomotives (United States and Canada)—Boilers; General Design—Boilers; Water Supply—Boilers; Fuel and Combustion—Cabs; Fittings; Boiler Mountings—Cylinders and Driving Gear—Foundation and Running Gear; Engine Trucks—Roller Bearings—Lubrication—Couplers and Draft Gear—Brakes and Brake Gear; Train Control—Tenders; Tender Trucks—Safety Appliances—Diesel Locomotives (Power Units)—Electric Locomotives—Industrial Locomotives—Foreign Locomotives—Locomotive Materials—Inspection; Locomotives and Boilers—Locomotive Shops and Engine Terminals—Indexes.

9 x 12 x 3 inches, 1250 pages, 2500 illustrations, buckram, \$5.00; leather, \$7.00

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RAPID DECELERATION

**... a necessity
with faster schedules**

Simplex Unit Cylinder Clasp Brakes play an important part in the operation of modern high-speed trains, such as the "City of Los Angeles" and the "City of San Francisco". They have made possible more rapid deceleration... a factor of vital importance in maintaining faster schedules.



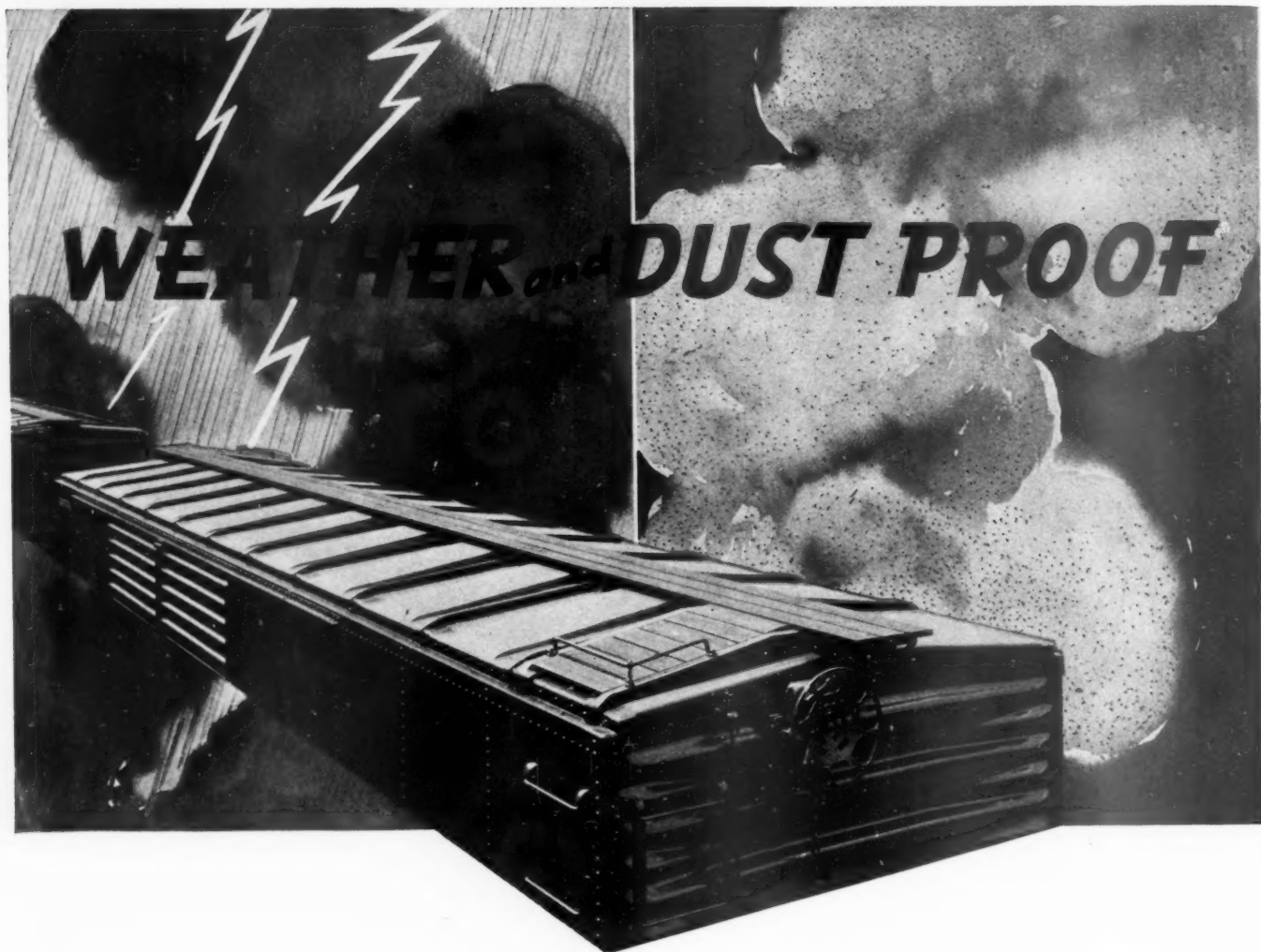
SIMPLEX UNIT CYLINDER CLASP BRAKES

are precision-built . . . for dependable performance.

Simplex Unit Cylinder Clasp Brakes not only effect quick stopping . . . they insure passenger comfort by their smooth, quiet operation . . . they promote safety by their dependable performance.

Simplex Clasp Brakes are a necessity on modern high-speed trains.

AMERICAN STEEL FOUNDRIES



DRY LADING RIVETED ROOFS

Maximum Strength with Minimum Weight

...

CHICAGO-HUTCHINS CORPORATION

CHICAGO — ILLINOIS



✓ Check these important features

**THEY ARE INCORPORATED IN
NATIONAL TYPE B
SPRING-PLANKLESS TRUCKS**

No Lost Springs
Quick Wheel Change
No Spring Plank
Brake Safeties Cast Integral
Unique Spring Suspension
Springs cannot go solid
Journal Box Water Ledges
Self Squaring
Spring Cushioned Lateral Blows

These outstanding money-saving features reduce operating costs tremendously by keeping freight cars off the repair track and in revenue service longer.

National Type B Trucks are furnished either with the well known coil leaf or all coil spring suspension. Complies with all A.A.R. requirements.



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Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: Railway and Power Engineering Corporation, Ltd., Toronto and Montreal



NIGHT OR DAY

Vigilance in railroad operation does not stop when night falls — vigilance works on a continuous 24-hr. schedule. And vigilance in manufacture should be on the same never-ending basis. In making Standard Steel Parts, therefore, vigilance demands that we control every process from making the steel to the final and exact machining of the finished product. It is vigilance that extends far beyond our plant and carries your trains through many days and nights of safe, uninterrupted service.

STANDARD

STEEL WORKS COMPANY

SUBSIDIARY OF THE BALDWIN LOCOMOTIVE WORKS
GENERAL OFFICES & WORKS: BURNHAM, PA.

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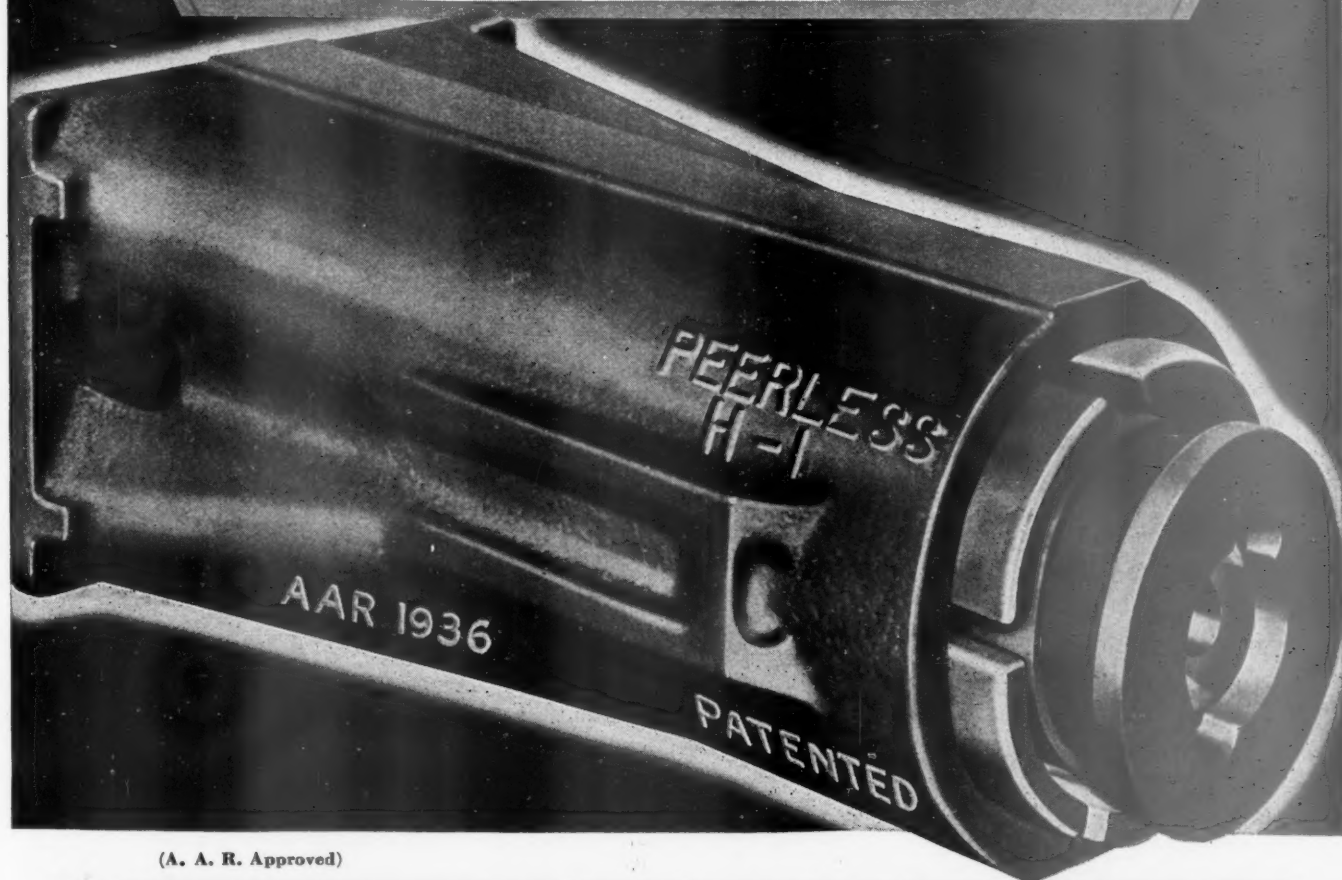
PEERLESS

HYLASTIC STEEL

FRICTION DRAFT GEAR

CERTIFIED PROTECTION

PLUS LIGHT WEIGHT



(A. A. R. Approved)

PEERLESS EQUIPMENT COMPANY

CHICAGO

THE HOLDEN CO., Ltd., MONTREAL

NEW YORK

Ste

THE MILWAUKEE ROAD

Steam Again

For The Six New High Speed **MILWAUKEE** Streamlined Locomotives

"NOTHING SUCCEEDS LIKE SUCCESS." Three years ago the original Hiawatha, hauled by the first newly built streamlined steam locomotive, was acclaimed a marvel in transportation. Its instant success both as a traffic builder and a money maker soon necessitated the second Hiawatha. Nearly a million paying passengers averaging more than 800 daily have traveled on this famous flyer. Gross earning in 1937 amounted to \$3.90 per train mile and net operating revenue was \$2.63 a mile. Now the third Hiawatha has been placed in service. Guided by this extraordinary success of the Hiawatha—the Milwaukee has again placed full confidence in steam when six new 4-6-4 high speed streamlined steam locomotives were selected for its heavier and improved main line service.

Steam is Always a Good Paying Investment

Alco



**AMERICAN
LOCOMOTIVE
COMPANY**

30 CHURCH STREET, NEW YORK CITY

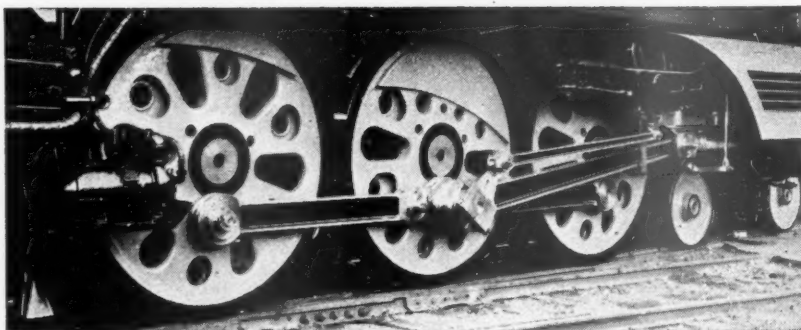
New Milwaukee Locomotives

are Fully Equipped with



COMMONWEALTH BEDS simplify locomotive construction, remove all possibility of cylinders and frame structures loosening, provide greater locomotive mileage between shop-pings and eliminate a large portion of locomotive repair costs.

The air reservoir, rear cylinder heads and air pump brackets are cast integral with the locomotive bed.



BOXPOK DRIVING WHEEL CENTERS provide maximum strength with light weight, prevent out-of-round wheels, and enhance locomotive appearance.

and Passenger Cars . . . COMMONWEALTH PRODUCTS

Assuring Superior Performance

THE six new 4-6-4 type streamlined passenger locomotives of most modern design, built by American Locomotive Co., are equipped with COMMONWEALTH locomotive beds, four-wheel engine trucks and trailer trucks, Boxpok driving wheels, water bottom tender frames and six-wheel swing-motion equalized tender trucks.

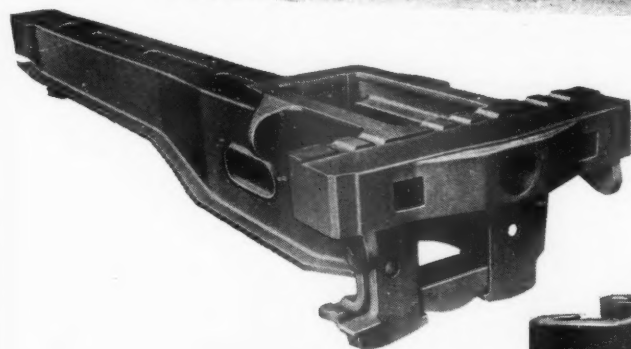
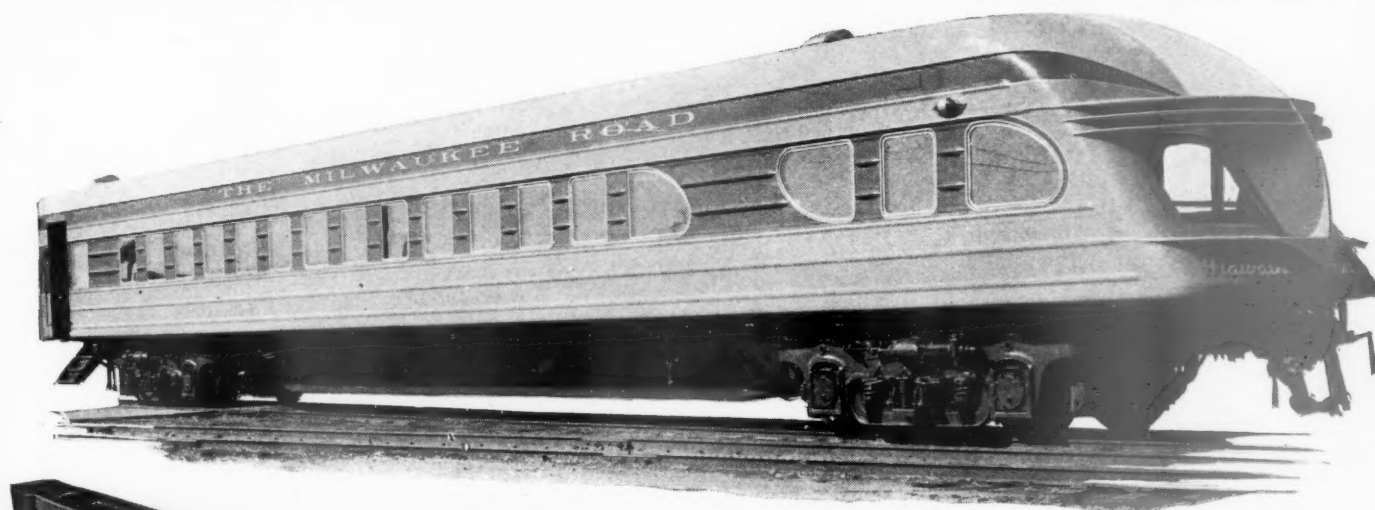
The 41 light weight streamlined passenger cars built in the Milwaukee shops are equipped with Commonwealth four-wheel

trucks of special design and combined buffer and underframe center sill castings.

The repeated selection of Commonwealth cast steel devices for service on new locomotives and passenger cars is proof of their superior quality and efficiency.

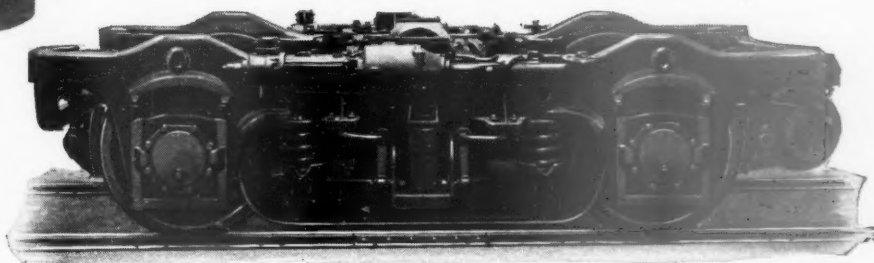
Commonwealth products contribute to increased railroad revenue by materially reducing shopping costs and increasing the availability of the equipment for continuous service.

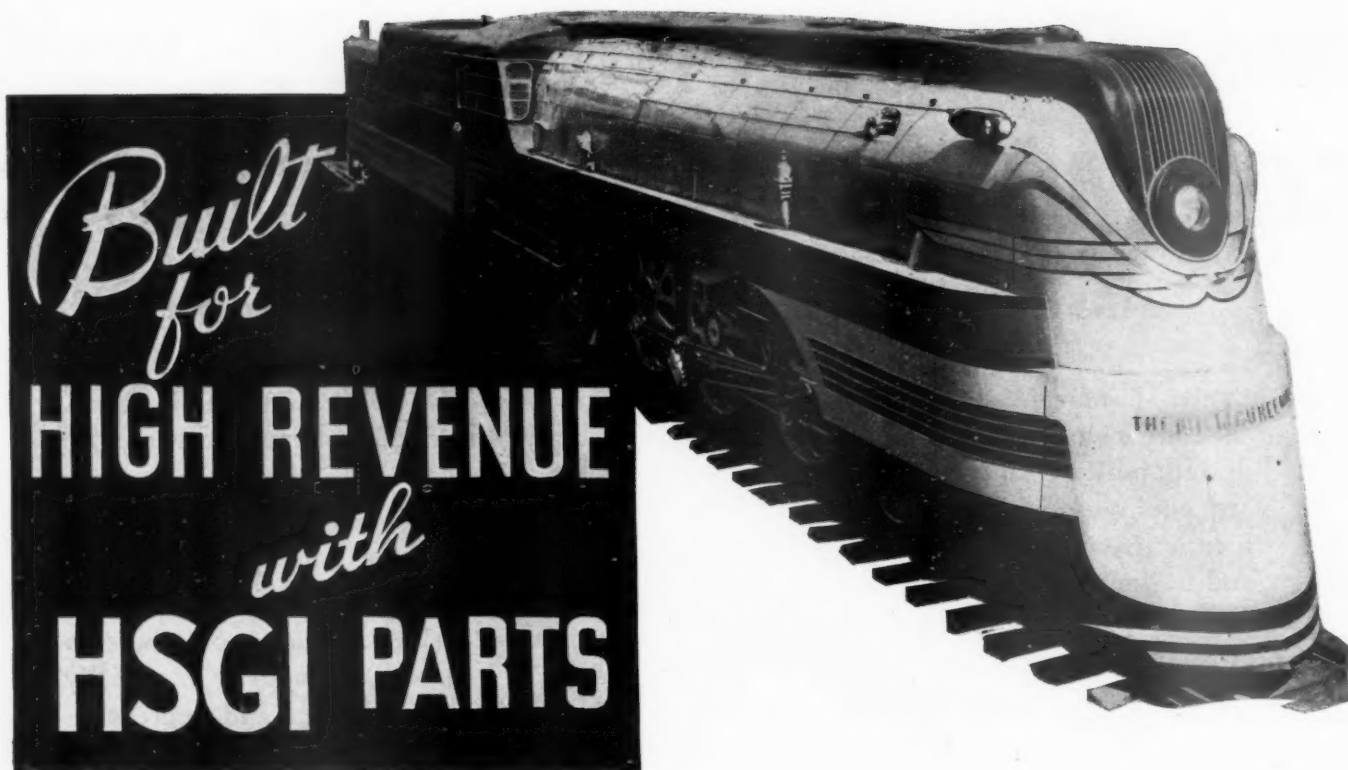
GENERAL STEEL CASTINGS
EDDYSTONE, PA. GRANITE CITY, ILL.



COMMONWEALTH COMBINED BUFFER AND CENTER SILL CASTINGS simplify the underframe construction of the car and provide a light, strong, structure with entire freedom from joints.

COMMONWEALTH TRUCKS, with one-piece cast steel frames and bolsters, combine smooth riding and maximum passenger comfort with light weight, greatest strength, utmost serviceability and lowest maintenance costs.





*Built
for*
HIGH REVENUE
with
HSGI PARTS

ADDDED to the revenue producing "Hiawathas" are six new streamlined 4-6-4's just delivered by the American Locomotive Co. to the Milwaukee.

This new power is equipped with HUNT-SPILLER *Air Furnace* GUN IRON Cylinder Bushings, Valve Bushings, Outer Rod Bushings, Piston Valve Bull Rings and Duplex Sectional Packing in the valves and cylinders.

That the service built into these HSGI parts will contribute to the economical operation of this power is a well established fact proved by the performance of all other locomotives working for the Milwaukee.



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Air Furnace **HUNT-SPILLER
GUN IRON**

"RAILWAY" SPRINGS

From Locomotive to Observation Car



For Passenger Comfort and Easier Riding

"RAILWAY" Springs of the highest quality, correctly designed, carry the newest Milwaukee passenger equipment including six new high speed 4-6-4 streamlined locomotives and 35 modern cars. A number of the cars will be used on the famous "Hiawatha" trains running between Chicago and Minneapolis-St. Paul, 410 miles in 390 minutes, including six stops. Others will be used in improved trunk line service.

In all of these trains passengers will delight in the smooth, easy riding among surroundings of unsurpassed beauty and utility. "RAILWAY" Springs play an important part in making this luxurious travel comfortable.

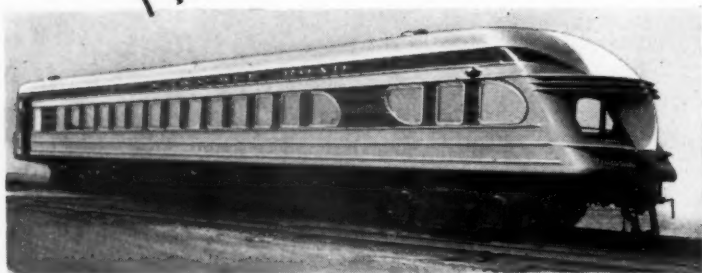
AMERICAN LOCOMOTIVE COMPANY
Railway Steel Spring Division
30 CHURCH STREET, NEW YORK, N. Y.

The NEW Hiawatha



with VAPOR PRODUCTS

FROM END TO END!



Locomotive Steam Heat Specialties
 Steam Train Line Connections
 Vapor Heating System Specialties
 Thermostatic Control Heating Specialties
 Air Conditioning Controls
 Water Protection Specialties
 Unit Type Copper Fin Radiation

These Cars are equipped
 with the most modern Heat-
 ing System yet developed
 for Light Weight Trains.



VAPOR CAR HEATING CO., Inc.

RAILWAY EXCHANGE • CHICAGO

Everything for Passenger Train Temperature Regulation



X

SPEED is here to stay, apparently. The desire for fast travel is being gratified. Railroads are meeting the demand . . . One outstanding example is the Hiawatha service of the Chicago, Milwaukee, St. Paul and Pacific Railroad. It has grown rapidly in popularity as evidenced by the successive demands for greater carrying capacity . . . While complete stops are not made often on this run, slow-downs from maximum to medium speed are frequent, and Westinghouse Air Brakes of modern type — responsive, **FAST**, powerful, flexible — keep the train in hand at all speeds. » » » »

Even this fine service will soon be further enhanced by new more powerful locomotives and deluxe streamlined cars.

WESTINGHOUSE AIR BRAKE CO.

General Office and Works » Wilmerding, Penna.

"So he journeyed westward, westward,
Left the fleetest deer behind him."

Yet his namesake goes more swiftly,
Goes with swifter pace and sure,
From the wind-swept lake-side city,
From the teeming, busy marts of men,
To the land of lovely Minnehaha,
Onward to the realm of Laughing Water.

"Strong of arm was Hiawatha,"
Stout of heart and firm his tread;
Stronger yet are metal sinews,
Surer too, o'er paths of steel,
Runs the new-born Hiawatha,
Running boldly, swiftly, surely.

"Not for fame was Hiawatha's running,
But to benefit and serve his people."

and yet, fame is ever
the reward for beneficent service

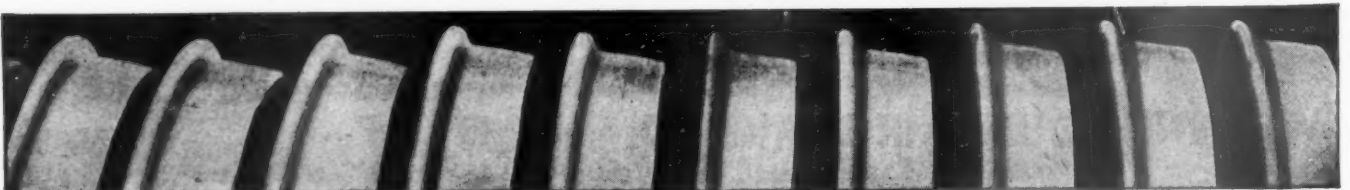


EDGEWATER ROLLED STEEL WHEELS

EDGEWATER STEEL COMPANY, Works and Gen. Off., PITTSBURGH, PA.

Sales Offices:

ATLANTA BALTIMORE BOSTON CHICAGO KANSAS CITY LOUISVILLE NEW YORK
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PRODUCTS . . .

W I D E L Y Chosen for Modern Power



BARCO Low Water Alarms are *sure of action*—actuated *solely* by height of water—operation depends on *no* other element—low water level always blows whistle.



Thirty 4-8-4 Type Locomotives Delivered to the "Milwaukee" earlier this year were also BARCO Equipped

6 NEW "MILWAUKEE" LOCOMOTIVES
are **BARCO** EQUIPPED

.0014 of the value of the locomotive alone covers the initial cost of BARCO low water alarm protection to the traveling public, the crew, the locomotive, and adjacent property.

BARCO all metal air and steam connections provide greatest efficiency at lowest cost of maintenance and maximum protection against failures in locomotive piping and connections.



BARCO 3-V Engine and Tender Connections for steam and air—low maintenance—fewest parts—greatest capacity.

BARCO MANUFACTURING COMPANY

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THE HOLDEN COMPANY, LTD.

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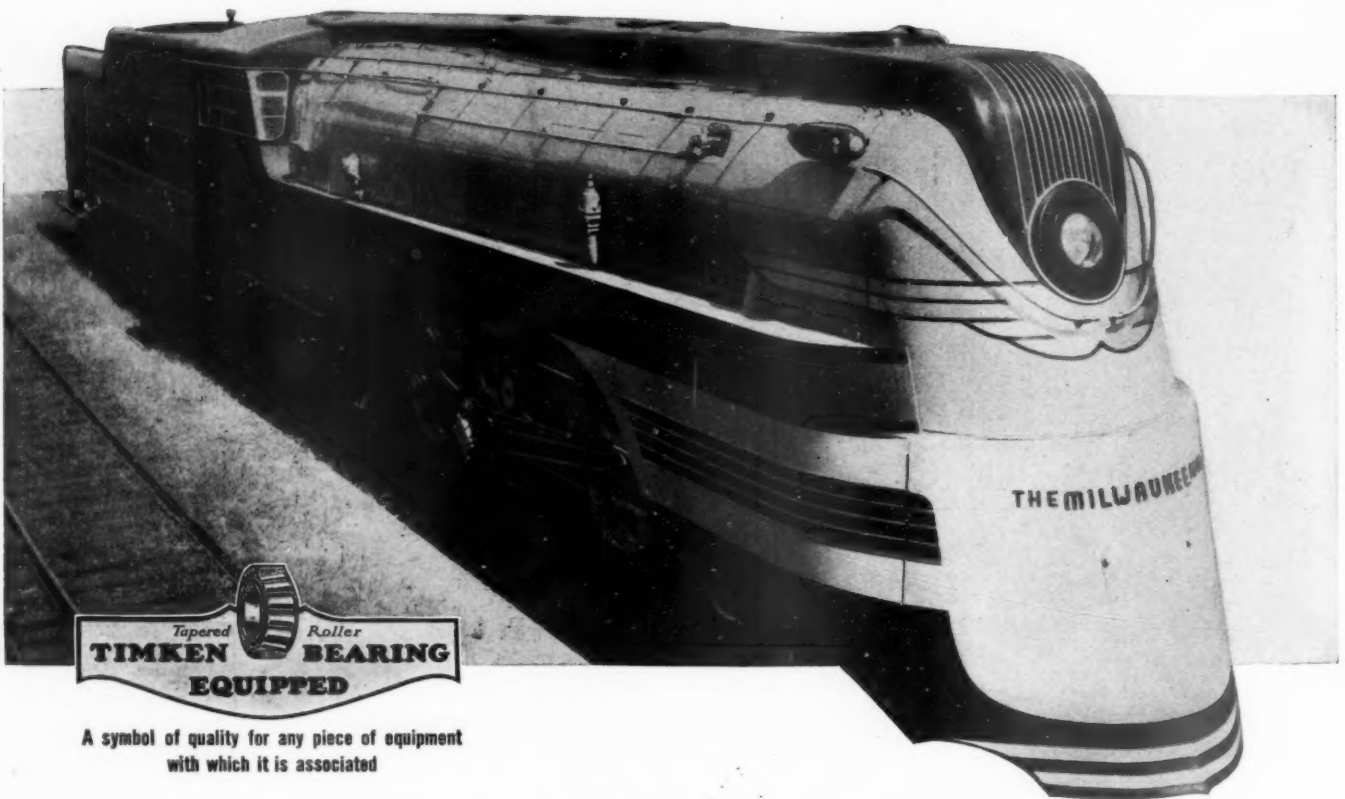
Toronto

Winnipeg

Vancouver

MILWAUKEE'S 6 NEW LOCOMOTIVES GO ON TIMKEN BEARINGS

ALL DRIVING AXLES AND ENGINE TRUCKS



A symbol of quality for any piece of equipment
with which it is associated

The Chicago, Milwaukee, St. Paul and Pacific was one of the first to foresee the advantages and pioneer the use of TIMKEN Roller Bearings in rolling stock.

In addition to several hundred Timken Bearing Equipped cars the Milwaukee operates thirty 4-8-4 locomotives, used in freight and passenger service, all of which are equipped with TIMKEN Bearings on all driving axles and engine trucks. The six new 4-6-4 type, also equipped with TIMKEN Bearings on all driving axles and engine trucks, brings the total to 36. These are being built by the American Locomotive Company and will be used for passenger service only.

Repeat orders for Timken Bearing Equipped rolling stock by "long-time" users mean but one thing—preference from performance.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

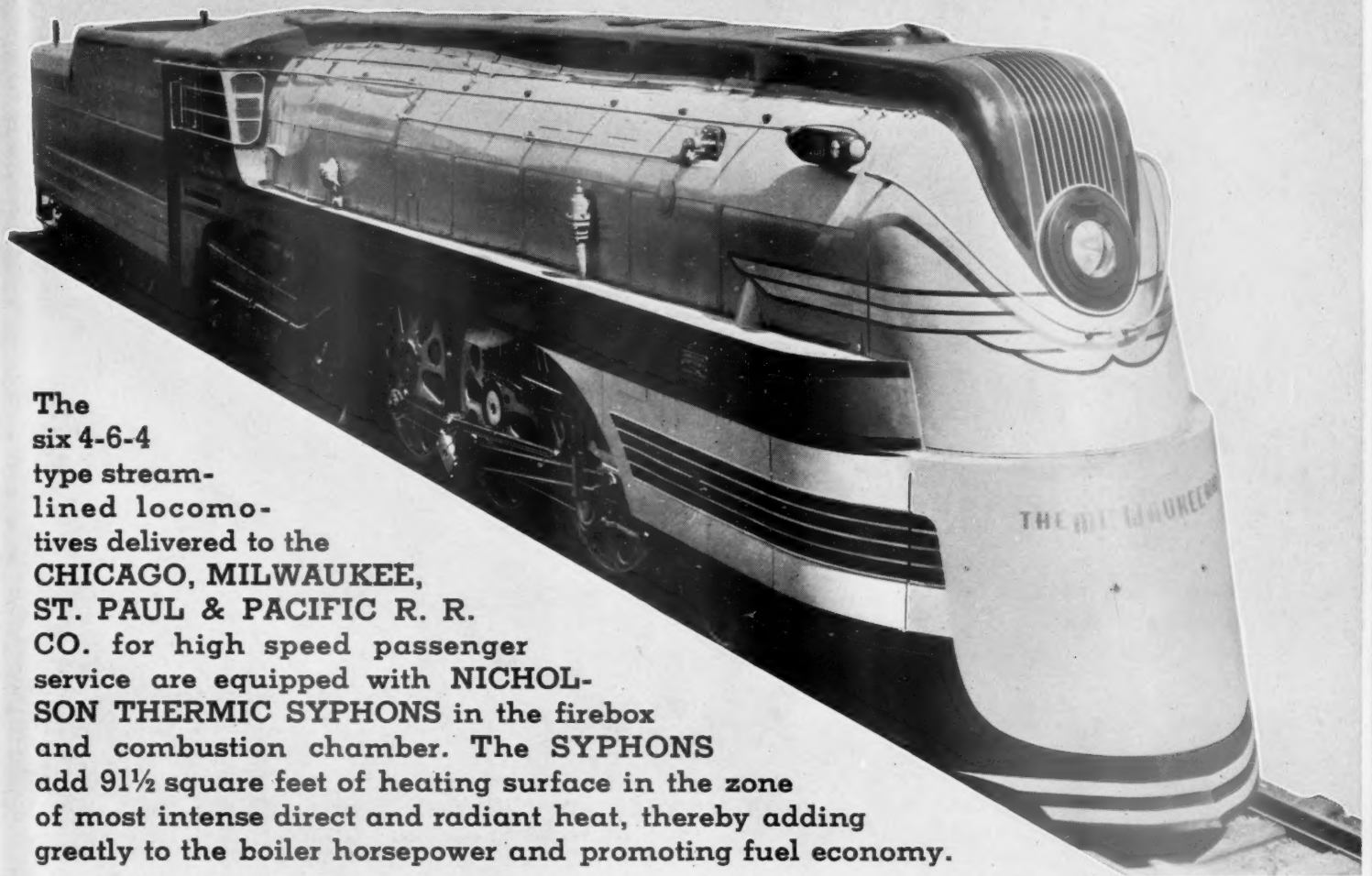
Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steels and Carbon and Alloy Seamless Tubing; TIMKEN Rock Bits; and TIMKEN Fuel Injection Equipment.

TIMKEN

RAILWAY ROLLER BEARINGS

Nicholson Thermic SYPHONS

"The Heart of the Locomotive"



The
six 4-6-4
type stream-
lined loco-
tives delivered to the
CHICAGO, MILWAUKEE,
ST. PAUL & PACIFIC R. R.
CO. for high speed passenger
service are equipped with NICHOL-
SON THERMIC SYPHONS in the firebox
and combustion chamber. The SYPHONS
add 91½ square feet of heating surface in the zone
of most intense direct and radiant heat, thereby adding
greatly to the boiler horsepower and promoting fuel economy.

**18,142 Syphons Have Been
Installed in 8,210 Locomotives
on 176 Railroads**

Increased Heating Surface
Increased Circulation
Improved Performance
Reduced Maintenance
Fuel Economy
Safety in Case of Low Water



LOCOMOTIVE FIREBOX COMPANY
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Dearborn Stops Pitting

"The Committee on Water Service, Fire Protection and Sanitation of the American Railway Engineering Association . . . estimates that \$12,000,000.00 can be saved annually by the elimination through proper treatment of corrosion in locomotive boilers alone."—from *Railway Age*, July 16, 1938, page 113.

The following typical extracts, selected from many locomotive boiler inspection reports, give an actual "before and after" statement by the Chairman of a Railroad Water Committee regarding pitting:

Before Starting Dearborn Treatment

February 6. Engine No. Inspected January 19. Operated on District past six months. Pitting very active on flues and firebox sheets. On crown sheet very active and deep.

"You will note very little progress has been made in eliminating pitting in these locomotive boilers. It is hoped the Tannin Brick Treatment will be of some assistance, and no doubt when we get the compound solution ready for application at, we will obtain a much more uniform treatment at that point than heretofore. In the meantime, I think you should give

Dearborn Modern Methods of Locomotive Boiler Water Treatment and Dearborn Automatic Treating Equipment, which is installed where needed, save large sums of money annually for Dearborn customers. Your inquiries invited.

special attention to the weekly analyses you will now begin receiving from water stations in this territory."

After Seven Months of Dearborn Treatment

October 4. Same engine as above. Inspected September 3. Operated on District past five months. No active pitting visible.

"It is very gratifying to note the Dearborn Treatment has stopped pitting of boilers in this territory. These inspection reports show a constant check on treatment maintained at by General Foreman with chemical tests, and the use of Tannin Brick in tenders of locomotives has been very effective. With this continued, and feeders in operation at, we will no doubt entirely prevent pitting in the territory hereafter, which has caused so much damage to boilers and expense heretofore."

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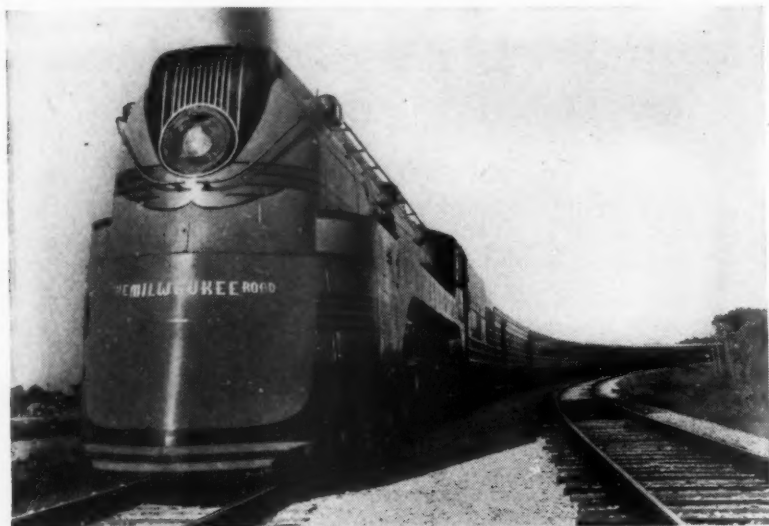
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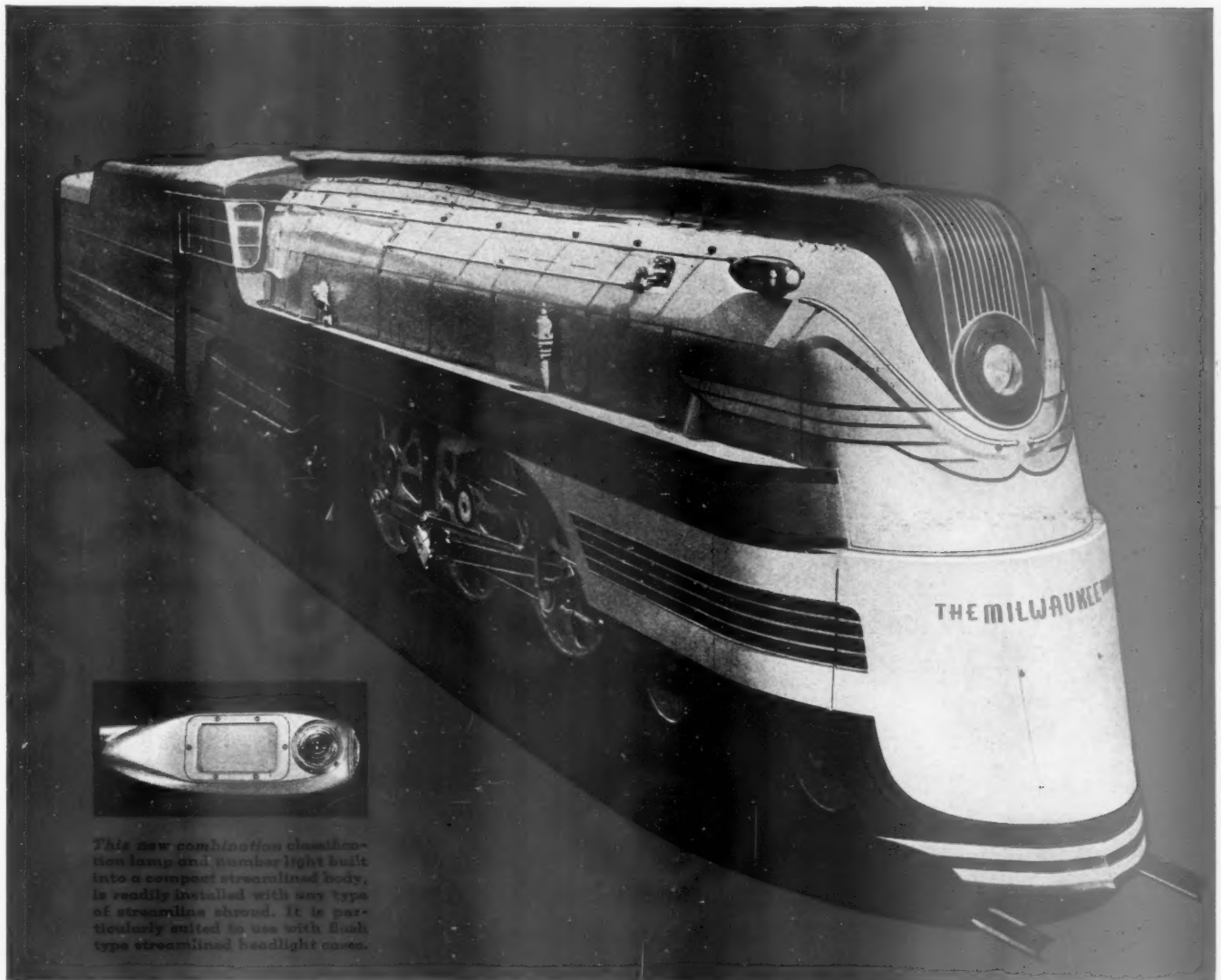
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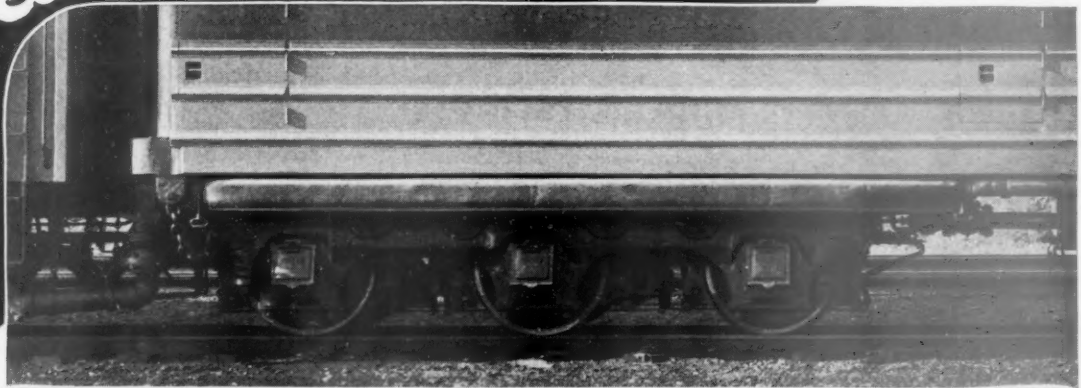
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The applications here illustrated are examples of this important advantage, the two pipes on both tender and passenger car being insulated together. Wovenstone is the **ONLY** insulation adapted to this and many other similar conditions—curves, fittings and nested pipes.

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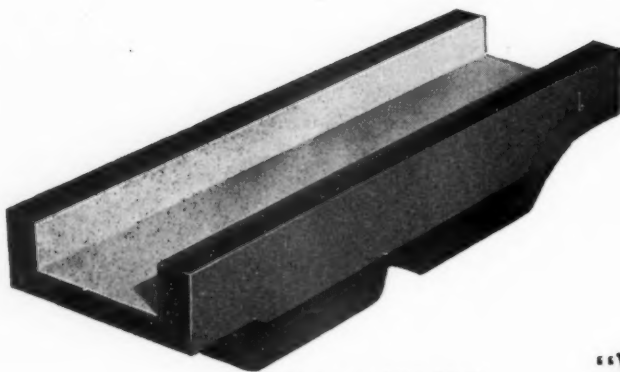
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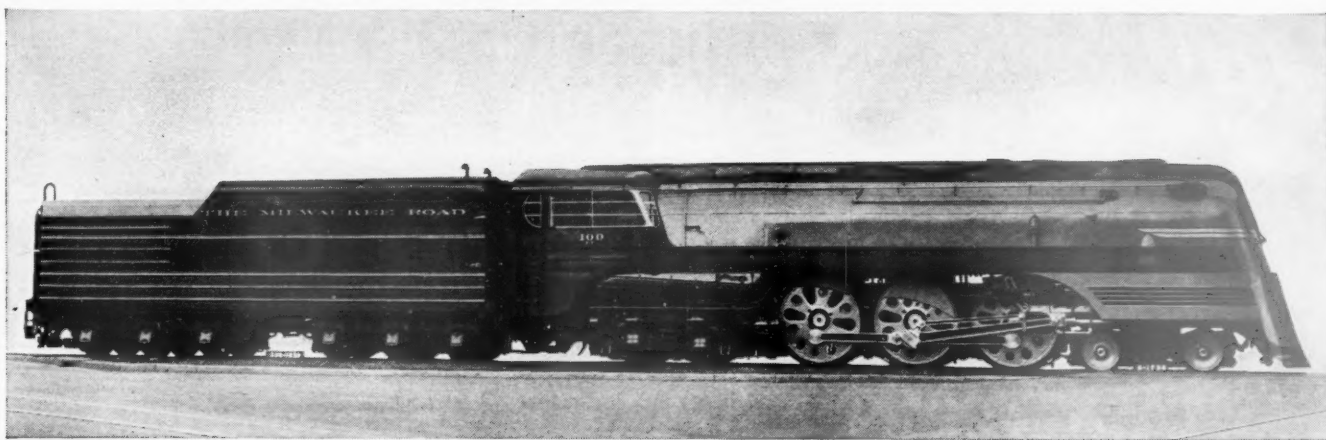
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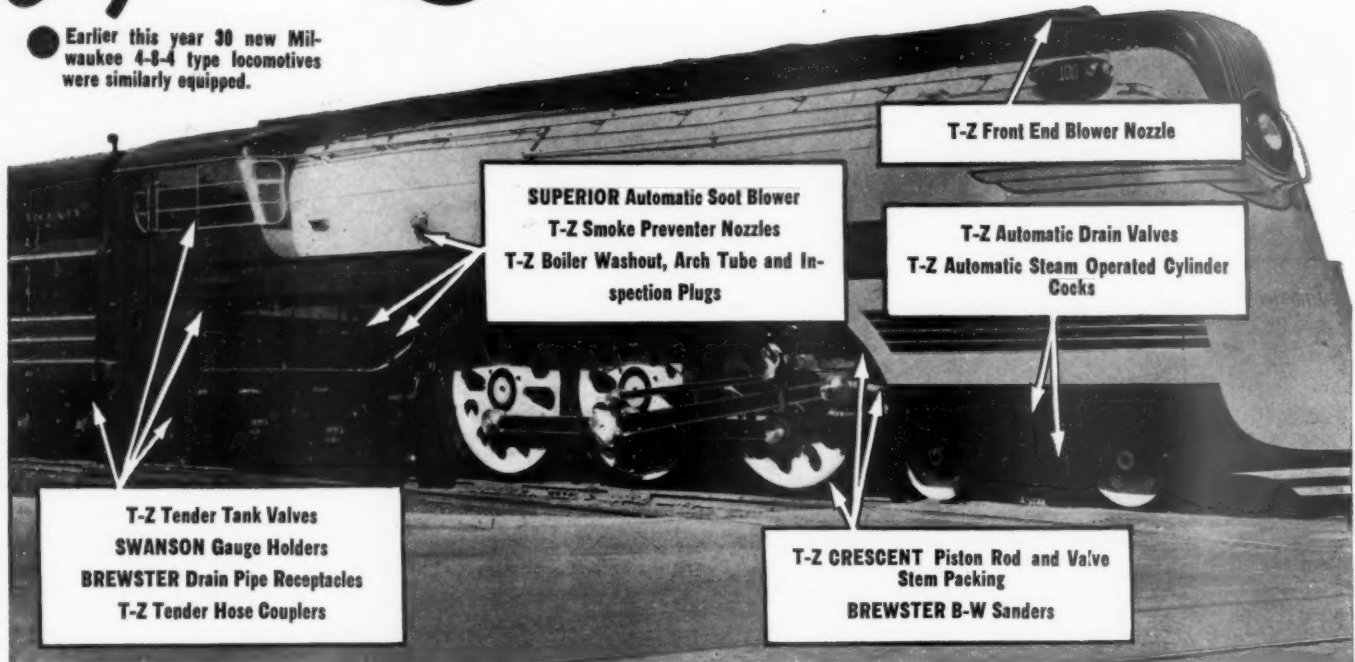
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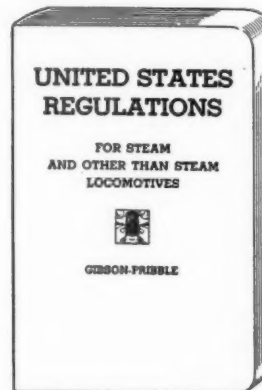
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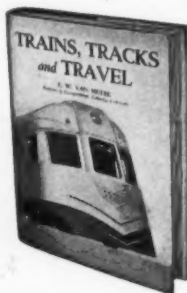
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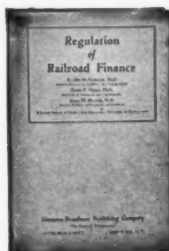
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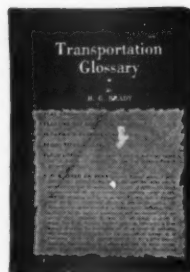
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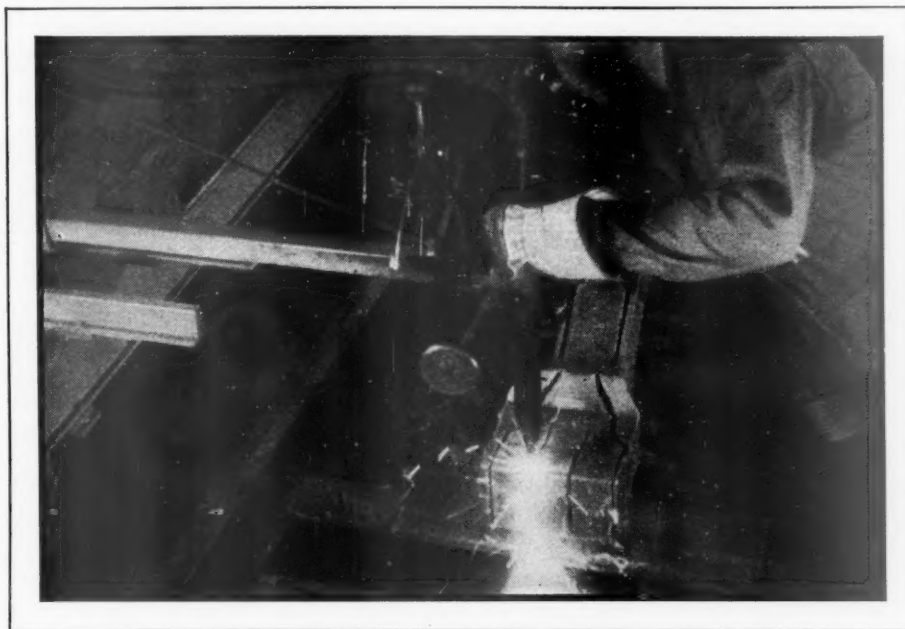


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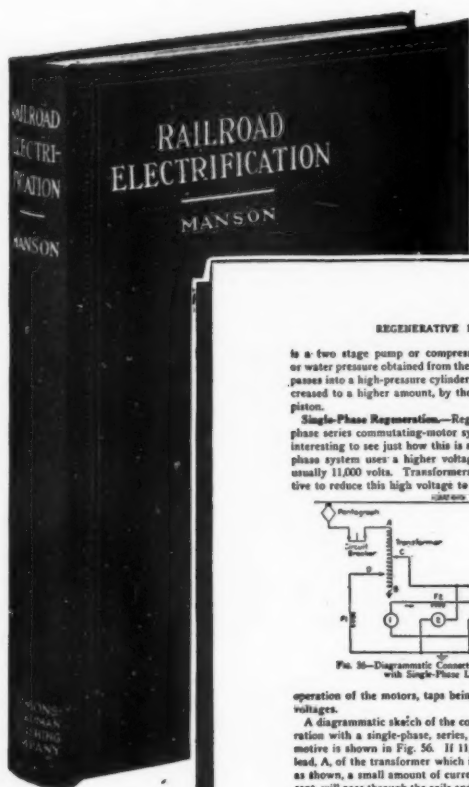
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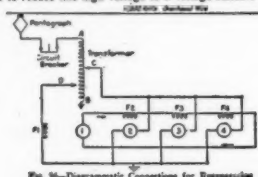
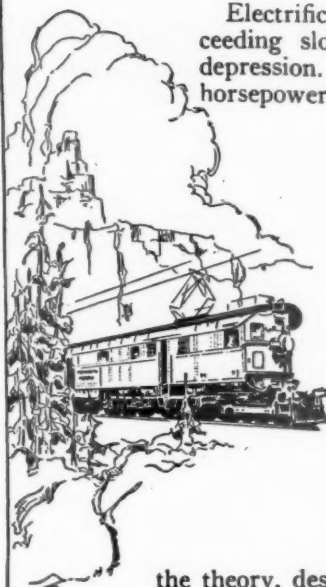


FIG. 56—Diagrammatic Connections for Regeneration with Single-Phase Locomotive.

operation of the motors, taps being taken out at the proper voltages.

A diagrammatic sketch of the connections used for regeneration with a single-phase, series, commutator-type of locomotive is shown in Fig. 56. If 11,000 volts is applied at the lead, A, of the transformer which is represented by the loops as shown, a small amount of current, known as exciting current, will pass through the coils and out at the lead B, which is connected to the ground. If it were possible to measure, beginning at lead, A, the voltage throughout all of the turns of the transformer, it would be found that there is a decrease in voltage as progress is made along the coils from A toward B until zero voltage is obtained at B. Thus it is possible to get



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United States Safety Appliances

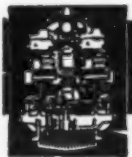
By H. S. BRAUTIGAM

Formerly Chief Safety Inspector on the C. M. St. P. & P. Railroad



A practical manual of safety appliance laws, legal decisions, and Interstate Commerce Commission Orders and Interpretations covering the application of safety appliances to the motive power and rolling stock of steam railways in the United States. Information has also been inserted which, while not part of the Interstate Commerce Commission orders, represents practice which has been found to meet satisfactorily the intent of the law in doubtful cases. The text is supplemented by detailed sketches, including reproductions of the official drawings of the Bureau of Safety Specifications and of alternative types of construction which meet requirements.

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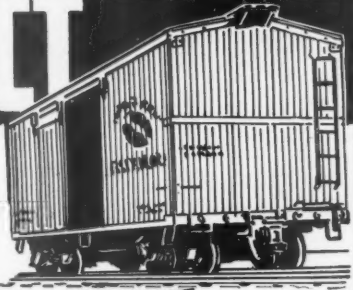
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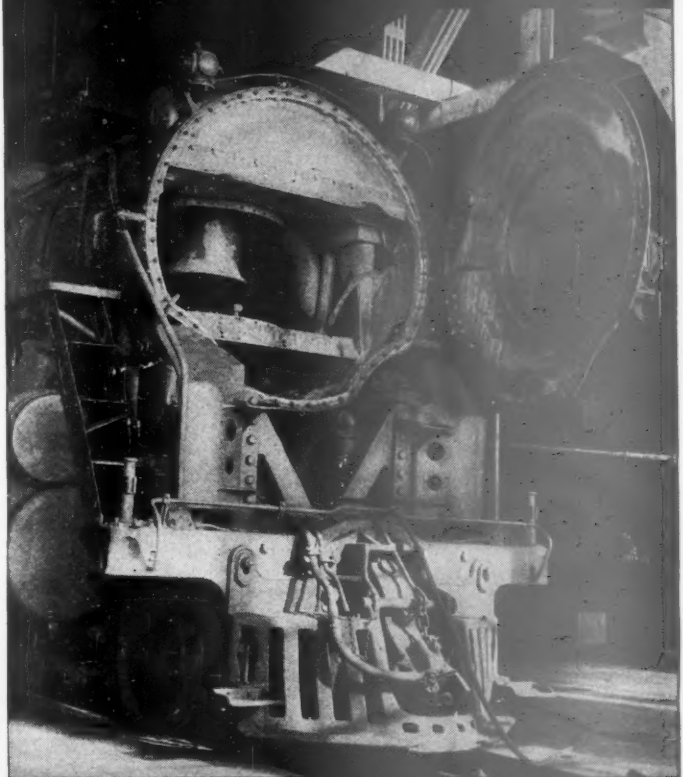
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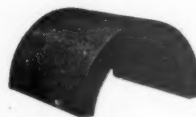
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1937 Railroad Chart (with 1938 Supplement)

By **ROBERT A. BURROWS**
Statistician

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This chart shows the inter-relations of all voting stocks for Class I steam railroads and all important "top" and "intermediate" holding and investment companies. Coded symbols show the per cent holdings of all common and preferred stocks. Outstanding capitalization, per cent classification of gross revenues, gross revenues, operating ratio, net income, share earnings and over-all charges earned are shown. Also flow of dividends, capitalization ratio, stock symbols, receiverships, tabulation of 1937 earnings and dividend payments, miles of road operated, government loans, and leases.

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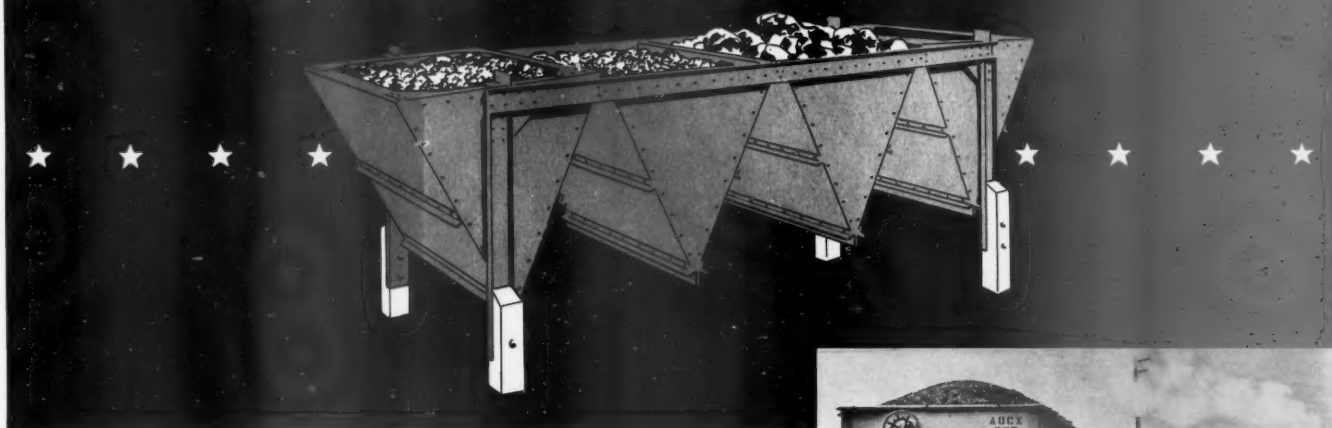
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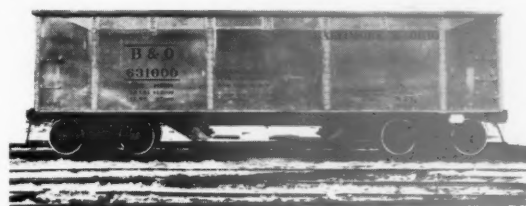
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